AMENDMENTS TO THE SEQUENCE LISTING

IN THE SEQUENCE LISTING

Please replace the Sequence Listing of record with the Substitute Sequence Listing enclosed herewith.

SEQUENCE LISTING

<110>   Toshiyuki KOMORI
        Yoshimitsu TAKAKURA
        Yuko HIEI
        Shoichi SUZUKI
        Yoshiki KURAYA

<120>   THE RICE RESTORER GENE TO THE RICE BT TYPE CYTOPLASMIC MALE STERILITY

<130>   0230-0220PUS1

<140>   US 10/520,350
<141>   2005-01-04

<150>   JP 2002-197560
<151>   2002-07-05

<160>   87

<210>   1
<211>   24
<212>   DNA
<213>   Artificial Sequence

<220>
<223>   Synthetic oligonucleotide primer for amplification of R1877 EcoRI marker
sequence.

<400>   1
cattcctgct tccatggaaa cgtc   24

<210>   2
<211>   33
<212>   DNA
<213>   Artificial Sequence

<220>
<223>   Synthetic oligonucleotide primer for amplification of R1877 EcoRI marker
sequence.

<400>   2
ctctttctgt atacttgagc tttgacatct gac   33

<210>   3
<211>   20
<212>   DNA
<213>   Artificial Sequence

<220>
<223>   Synthetic oligonucleotide primer for amplification of G4003 HindIII
marker sequence.

<400>   3
gatcgacgag tacctgaacg   20

1

```
<210>  4
<211>  24
<212>  DNA
<213>  Artificial Sequence

<220>
<223>  Synthetic oligonucleotide primer for amplification of G4003 HindIII
marker sequence.

<400>  4
aatagttgga ttgtcctcaa aggg   24

<210>  5
<211>  27
<212>  DNA
<213>  Artificial Sequence

<220>
<223>  Synthetic oligonucleotide primer for amplification of C1361 MwoI marker
sequence.

<400>  5
aaagcaaccg acttcagtgg catcacc   27

<210>  6
<211>  24
<212>  DNA
<213>  Artificial Sequence

<220>
<223>  Oligonucleotide primer for amplification of C1361 MwoI marker sequence.

<400>  6
ctggacttca tttccctgca gagc   24

<210>  7
<211>  27
<212>  DNA
<213>  Artificial Sequence

<220>
<223>  Oligonucleotide primer for amplification of G2155 MwoI marker sequence.

<400>  7
gaccaccaat taactgatta agctggc   27

<210>  8
<211>  27
<212>  DNA
<213>  Artificial Sequence

<220>
<223>  Synthetic oligonucleotide primer for amplification of G2155 MwoI marker
sequence.
```

```
<400>  8
tttctggctc caataatcag ctgtagc  27

<210>  9
<211>  27
<212>  DNA
<213>  Artificial Sequence

<220>
<223>  Synthetic oligonucleotide primer for amplification of G291 MspI marker
sequence.

<400>  9
ctgctgcagc aagctgcacc gaaccgg  27

<210>  10
<211>  24
<212>  DNA
<213>  Artificial Sequence

<220>
<223>  Synthetic oligonucleotide primer for amplification of G291 MspI marker
sequence.

<400>  10
acatttttc ttccgaaact tccg  24

<210>  11
<211>  24
<212>  DNA
<213>  Artificial Sequence

<220>
<223>  Synthetic oligonucleotide primer for amplification of R2303 BslI marker
sequence.

<400>  11
atggaaagat acactagaat gagc  24

<210>  12
<211>  24
<212>  DNA
<213>  Artificial Sequence

<220>
<223>  Synthetic oligonucleotide primer for amplification of R2303 BslI marker
sequence.

<400>  12
atcttatata gtggcaggaa agcc  24

<210>  13
<211>  24
<212>  DNA
<213>  Artificial Sequence
```

<220>
<223> Synthetic oligonucleotide primer for amplification of S10019 BstUI marker
sequence.

<400> 13
aacaatctta tcctgcacag actg   24

<210>   14
<211>   24
<212>   DNA
<213>   Artificial Sequence

<220>
<223> Synthetic oligonucleotide primer for amplification of S10019 BstUI marker
sequence.

<400> 14
gtcacataga agcagatggg ttcc   24

<210>   15
<211>   24
<212>   DNA
<213>   Artificial Sequence

<220>
<223> Synthetic oligonucleotide primer for amplification of S10602 KpnI marker
sequence.

<400> 15
agctgttgag agttctatgc cacc   24

<210>   16
<211>   24
<212>   DNA
<213>   Artificial Sequence

<220>
<223> Synthetic oligonucleotide primer for amplification of S10602 KpnI marker
sequence.

<400> 16
tagccatgca acaagatgtc atac   24

<210>   17
<211>   26
<212>   DNA
<213>   Artificial Sequence

<220>
<223> Synthetic oligonucleotide primer for amplification of S12564 Tsp509I
marker sequence.

<400> 17
ctagttagac cgaataactg aggttc   26

<210>   18
<211>   27

4

<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide primer for amplification of S12564 Tsp509I
marker sequence.

<400> 18
tttgtgggtt tgtggcattg agaaaat   27

<210> 19
<211> 2240
<212> DNA
<213> Oryza sativa L.

<220>
<221> misc_feature
<223> PCR marker G4003 HindIII

<400> 19
```
gcggccgctc cgggaagtcg agcgagtaga cgcccctgac gccgtacgcg tcggcgagcc   60
gcagcggcgt ctctggcggt gtgaaggaca gcccgttcag cgtcgcgcgg cgccgcccgt  120
tgatcgtcac cggcgccgtg ctccgcagca ggtacgcctg cgtcacgttg atcgacgagt  180
acctgaacga tccctgtggg ttcggcctcg ccgctccggc actcaggttc cacctgccca  240
atgcaaaaaa ccaaaaccca aaagcttaat gcgaataata catcattcca cgtatttaaa  300
aaaataattt ataggtaaaa tttttataat gtattttagc gacgtaaatg tcaatgctga  360
gaaataaacg ataatacttt aaatgaagtt ctaaaattta aattttggca tcggttgatg  420
ttggataaag aaaacgatgg aggctagtaa ttttttcttct tttttaagta tctagattgt  480
catatattga atttttcagt ttttcatccc tttgaggaca atccaactat tattttcctt  540
ttcttatgta aaaggttgaa caacatattc aaacataaaa aaataaaatt aaatgaaata  600
aatttacaat tcataaaatt tacagaattt atgttaagaa aatattcaaa cttagataat  660
aataaagcaa caaaatcgta ctaaaaagaa gtataattgt acattgtata ctactactcc  720
tacaatttta gacttagaat ttttaatttc ctgaaatcta gtaatgccat ttttttcttt  780
ctagttgaac cagacagtaa gtttaactcg aaacttataa gctaatgagc gaagtcgggc  840
aattcactcg tacctgacgg agcgagcttg gttcatggag aaggacttgt cgaactggtc  900
ctggggaggg tcggggagcg ggccggaggc ccgcccccgg gagttggagt agcggaggac  960
ggcgacgccg gcgacgcggc gccacacggt gtcgttcacc atgcgcgcgc tggcgacgac 1020
gtagtagtcg gagctcgcgt tctggtcggt ggtgacgagg aaggagtagg actggccgac 1080
gtggacgtcc aggttggtgt agttctgctg cgtcgtgtag gagccctccg tctccaccag 1140
caccatgttg tgcccctgga tcctgaagtt gaggctcgtc gacgtcccca cgttgtgcac 1200
tcggatcctg tacgtcttgc ctgtgtcccc acaccgacgt cgccgacaca cgcgcaaaag 1260
ataatagact cattgtaagt aggtagtaac cttctccgtt tcatattata aatcgtttga 1320
ttatattttt gttagttaaa cttctttaag tttttttttct ataaacttaa ttaaatctaa 1380
agaattttaa taaaaaaat caaacgactt ataatataaa atggatggag tagttgcatc 1440
aatttgtgga tgaagcaaac aagattatat cctttcatg agggtgaaag tattcagtga 1500
acaattcgtc agtttcaagt ttcatgaaat cggacagggt ctctgaaagt ctgtattttt 1560
ggtactgttg gattgactac tctggcttct gttgtcacat cttttgtatc ctagtttcgg 1620
taaaaaaaat tttggcattt ttactcctat cgttgatctg tttaactgaa accattgcat 1680
gatatactac tagcagacaa aactggtgaa aattcacgag aatgaacttt ttgtcagtta 1740
agcattagcg gacagcttca gtaagcagag caggctgcct taaggcttaa agcactatct 1800
tccacaacac tttgtcctac aatcaaattc caaatttact atcacaaaaa gcgaaggaac 1860
taactaaacc ttactcctac tagtactact gctatgacta tgaaacaaga ttccaatcca 1920
aagaaaacac agtgctcgat cagcatgata aaagcaacga aacctgctca tccagctgcc 1980
aaaatgccac cccactgact ctacgtacgt actacgtatt gacgctgtaa aaaactagcc 2040
gtagtacaga gaagaggacc caaagtttcg tcaaaaattt tattttaccc ggatccacat 2100
tgatggtctc gtactcgatg ccggccggga caaggctgtc gttgtacctg tacgggccct 2160
tgccgttaat cagcacgccg tccggcatcc cgaggtcctt gccactgtcc agcatcttcc 2220
```

5

tcagatcctg caacgaattc   2240

<210>   20
<211>   2601
<212>   DNA
<213>   Oryza sativa L.

<220>
<221>   misc_feature
<223>   PCR marker C1361 MwoI

<400>   20
tcttgctgag atccaagttg cggtaacttt gcccttttct ttttttcttc tcttctgaat   60
ttttttcatgg tttttgggag agatttttcgt aacttgatta cagttctagg aaaaggccac 120
cttgttcaaa cagggctttc ttgaaaggga tcaatttgct aggagtacat gattctaaaa   180
gcgatttcga aataaaacac agttctcgat ctcatacctg aaaacaaaag gcccatactg   240
tgtaaactgt gattatgctt ctgttaaatg ggatatttgt acaaaattga cgccaaccac   300
ctataaacag attgtgagct tttatcttag taaaataaaa tgtgacattc tactcagtgt   360
tcagtgatcc gatgtcgtct cttctgcgta caacttctaa cagccgtttt cggtagtaca   420
aactagcgaa acaccaaaaa cgcagcattt gagttctgga atacgctgaa attgttagaa   480
tcaaccacga aaccaaaatc attgttcaga aacgttgcaa cgagataaaa cacaagaact   540
tgttttaaca aagcatacgg acagtacata tacggttaca cacccagtc tttatacagt   600
tctgctggag ttccatctac tggctgtcat tgtatctcag gacagacagg ttaacatagg   660
tacaacacaa ttacaggcta aaccgaagcg aactacactg tcagcatctc taacagtatc   720
gtcaagcaag cttatttaca gctgctctag taaatttaca acgtccctgg cagaatccct   780
ctcgtttctg gcagcgacga ggcacggtcc atggccttag caggacatct cacccgtcag   840
ctgcatagaa agcaaccgac ttcagtggaa tcacctcctg ctcctgcaaa aaagttggtt   900
cgatcaatca cgcgtttaat ccaaaacaaa atgggtatta attatgctag cctatgaagc   960
tacctcagag ttctctattt gctctgcagg gaaatgaagt ccagtggaac agttctcaag 1020
cacctcaggg ctcttcatcc atgctttgtg tgcttcaatg gctttcagct tatagcgaaa 1080
catctgcgat acggatctaa aattaaggat gtcgacaatt acttaacaca acaaataatt 1140
gaagcaggtc cagttaaaga aaagtagcag cgaagaatag cactctgaag tctgaacctc 1200
agataaagaa atggttggtt tttccagttc atctccctca acatggattc cagtaccctg 1260
gcattctggg caaaggatgg atgttatttt cttaggtgca ttttttgcct ttcttcctcg 1320
attgcttttt cccttgcttg caattttgtc tgctagcatc tcatattggc ataaaatagt 1380
ccagtgcaca aggcaagaag tgtgaaacaa atgaaatgcc tgcaaaatta gccgtacaaa 1440
gtcattggag gttgcagcag aatactacaa attttttaaag aagaaactat acactgtcta 1500
tgttttgctt gaaatgaatt caaccacttt gcattatacg gtttggaatc cctggtttgt 1560
gagaactgta attccattac aacagtgaag aagttaccat aactaatgaa tggaaattag 1620
tcaaatgcct aatttttttag gtttgctttta atttatttat ctgtgagaaa tgctaagcat 1680
gtcatgcgtt gctatcttca agaaatacta agaaactgca aaggcaaaga atgtttgaaa 1740
taacttaccc cgcttgagtt tctactgctg caggctagat ttcctgtctt gcagttgagc 1800
aaggtagcta catccttttc aagaagcatt ggtcgcccac aaatatcaca agctttctca 1860
gcagcaaggc gcttctgctt acgcaactcc ctcctcatag atttggtgga taagaggcca 1920
acttgaagat tgtgtgaagt acctgtcggg gaacctgtta tgatagcttg gctattgtca 1980
tgggcggagc tgctttgctc attcgactcc tctgaagatg cttcttgatc tgaaaatgac 2040
ttctttcttc tctttccacg gtgtccagca tcatcaatca cgaagaaaga tccagcagag 2100
ataggaaggt cctgatcatc agaagaccac ttcctgccca actcaattgt ataagagaag 2160
ttgacaatgg caaagtcaga ttgctcatag gtgtcacact catccaagcc atgggagcca 2220
tcctgtccta cccaagcaca ccagatcttg ctaatctttt tacttccttt gctagcttcc 2280
cataacctgt atgcaatatt tccatatccc aaaagatgca caggcaaatc cgaaacaaca 2340
tcctttagca atacactagg aataacgaga ggaccgtcag ttccactttg gtttgacagc 2400
acatgatctt cagatacaga agcagttcta ccattaccat gcgcatttgc accacggcgt 2460
gtgccttttg cgccattgcg agagctagaa tcatctctca acctcgaagt cacttcagtg 2520
tcgttcgctg gaaccagagc cagctctctg gtgttctgcg agctcgagtc cagcaagagc 2580
gggtccttct cgcgcgagtt g   2601

6

<210> 21
<211> 1333
<212> DNA
<213> Oryza sativa L.

<220>
<221> misc_feature
<223> PCR marker G2155 MwoI

<400> 21
```
ccctctgctt gatccagtgt acatccatgg gttaggacag attagttact cagttaatta   60
agtgtgagac tggaaaaaaa tatctgacgg cagttttata agttgagtga ttgaactagt  120
gaaagttcag ttaactgtca acggctgtag atttgggatg gcagactgtt ctgagtcaaa  180
atgaagcttt tactgtgcgt ggttaccagg tgcagtaaaa taatttcaga tctaatcgca  240
gtaaaaaaat gtagtactat atgttaagac gagattggtc ggtcaaaatc tatctggccc  300
tttacatctc ccaaatgtta cctcagttgc aggtggtaaa aaaaaatcac tcgtttcacg  360
tgatgtcggc agatcatgga ccatgtctca aatgctgaaa ctctgaacaa tcaacaaaaa  420
aatccaacca gatgagctgt gcaactgata attgatcatc acactatttg caactcatct  480
ttcatgtaga tggaacttca atcccgaaga aataatgaca gcaaaatgct gcgatcctga  540
agaaaggatg gcggcaaaat ggcagcgata aaaaaaaaat ggttggttac tgaagaatta  600
tttgtgcagc agttgagaca gtagcaagat aagagctagc taagctagct aggtagagtt  660
ggatggaaga gtagtagtat gagatagagc atggagcgcg acaactcaag tggatgctaa  720
agtaaaaggc attctcttct cttgtttgga atcagaaaag aaaagaaaag acttgagctg  780
cttggctgga atgtttggtt ggatcatgcg cgctctcctt agcttagctc gccaagaaat  840
cctcgcttca tctctctcaa taattcaaag ccacgagctc tctgctcata tccagtgcga  900
cgattcccgt taatgcaaat gcattatatc cagttcgaaa tgttacaatt cttgcgtttg  960
cagcaagcca gcaagtggtg tgaattgttt aatccctcgt gcatttcaac gaaattctct 1020
cacaaattcg cattgacttc tttcttagca caattagtaa gcagtgacaa ataaagaatt 1080
tttgaacagg atgtctttcc aaggaaggtg agattttta tgtggatagc aaggatcgcc 1140
tttccttagc atgaagagaa tgtgatcaac tttacacctt gcttacgatt atggccttaa 1200
tttttgatac cctaaacagg agcacatcac atgcatgtcg acctgagacc accaattaac 1260
tgattaagtt ggcatttcag atgcatccgt cagttacatg atcaggtgat cgatggatca 1320
actgtaggtt tca                                                    1333
```

<210> 22
<211> 863
<212> DNA
<213> Oryza sativa L.

<220>
<221> misc_feature
<223> PCR marker G291 MspI

<400> 22
```
cgaacaggat caaaagtaga cgacgagggc atttagaagg agaggaattg tatttgttcc   60
cggtatttaa tttttaaatt tgtggtcgga agtttcggaa gaaaaaatgt gctcatgagt  120
gattattggc tctgaacacc aacctctctt ttcgttgatt ccttctgagg tgttgggtgt  180
tgggacacga tgctgccgcc gacacgacac cgggttccac aatacactaa tctactcgcg  240
acaccttcat tgaactgcat ataattattt agaaagtcca ttaacacatc ttataaaacc  300
ttgttgaatc atataatcat tctataaagt ctatttgaac atcttatgaa aaaataagat  360
ctgacctagt cgttacactc tcttacattt tccattagcc taactaattc cgtgcaggaa  420
acgcccaaaa ataatagtac caatagtcca ctaatcccgt gccagaggcc gccaatgatt  480
agtgattaac ccaaaaaaca taatcatcat cacacgccgc taatgaccag ctctcgctta  540
gctcatccca caggcggccc ccacacgcca ctcctgccat gtgggcccac ctttcacacc  600
ccccaccaac cagaaaaaaa actcccccaa aaaaaaaact tttaatgctt atctcgcggc  660
agtataaaag gcgaccccac cacccacaca caatcacagt cagcgaccca acccaacccg  720
agccgaggag tcgagtcgtg tgaaaattac gaaattgccc ttcgactcca ccaccaccac  780
```

ccaccggcga ggcgaggaga ggagaaaaat tgggaggaaa aaaaaaggga aaaagaaaaa 840
gggtggagga gatttttgcg aag   863

<210> 23
<211> 1510
<212> DNA
<213> Oryza sativa L.

<220>
<221> misc_feature
<223> PCR marker R2303 BslI

<400> 23
tgccatgaag acctatggaa agaatatctt cttctcactc tgtgaatggt gagtttactc   60
tctgtaacat ttagggctag gtcgaaggaa catgaagcat tgctgattca ctccactgtg 120
ttttttttt ctgtataggg ggaaagaaaa tcctgctaca tgggcaggcc gcatgggtaa 180
cagctggaga acaactggcg acatcgccga caactggggc aggttctact catcctctct 240
ttaaccctgt ttacatagtt cttgagtttt tcagtactga tcgtaattgc cctgttattt 300
cagtatgaca tctcgtgcag acgaaaatga ccaatgggct gcctatgctg gacctggtgg 360
atggaatggt aagaacttga gatgtatctg ttcctaggtt gcttaaccat ttgagagctt 420
caaaatgatc aacatatgtt tctgctgtgc aatatcagat cctgacatgc ttgaagtggg 480
aaatggtggg atgtctgaag ctgagtaccg gtcacacttc agtatctggg cactagcaaa 540
ggtaccatag catgttctat gtactaataa ttttgctgca atgttgaact tctttgcatt 600
tcctcactgc aagttttgct tgaattgttc aggctcctct tttgatcgga tgcgatgtgc 660
gctcaatgag ccagcagacg aagaacatac tcagcaactc ggaggtgatc gctgtcaacc 720
aaggcaagcc ttctcagttt cacatgctta gatttagcca tacctcttgg atatttcacc 780
atactcataa tgtaactctc tgaacagata gtctaggtgt ccaaggaaag aaagtacaat 840
ctgacaacgg attggaggta tcccttcaat ggcttccaaa tttgcagttt ctcattgtcc 900
cataagcctt ggcatgatca tgactaactc tgaagctgac aatactttgt gtaaatttgt 960
cggtaggttt gggccgggcc actcagcaac aacaggaagg ctgtggtgct ctggaacagg 1020
cagtcatacc aggcaaccat cactgcacat tggtcgaaca tcgggctcgc tggatcggtc 1080
gcggtcactg ctcgtgatct atgggcggta aagcctttgc tttcttcaga gctcaaagta 1140
gaacatcttc tcttcagaat tcagagttca taacaaattt ctgtcaattg tgcagcactc 1200
ttcgttcgcg gctcagggac agatatcagc atcggtggcg cctcatgact gcaagatgta 1260
tgtcttgaca ccaaactagt cagcaaagaa aagcagcaca ggttagtacg tgtccggcga 1320
atacagctaa attgatcagg attcaggaag aaggtttgca atttgcaagg attggtagag 1380
ctggaaatgg gatgccattt ggttatgtat gtagaaataa gctgtaagcc tgtaagcgta 1440
tatgtaatca gccgtcaaat gctggcgagt gtatttctga agtttgcaac gaaagttgca 1500
gcaataaaaa   1510

<210> 24
<211> 1016
<212> DNA
<213> Oryza sativa L.

<220>
<221> misc_feature
<223> PCR marker BstUI

<400> 24
tggggattct tttctttaag caatttaaca ttattgtcct aacaatatac acaatattgg   60
ttttctttc agtatcaaat aattcttta cttttgaaaa cacatttgca atgtgttgga 120
aacacaatta tatcttgcac ttcctttggg aaatttaatc atttgaaaac tgattcgcgt 180
ttcatggctg taatcttctc ttgcgaacat cgctctttct ttgatggttc tctgttgaga 240
agaagagcaa ccaagtaaat tttcgaaatg tttttttgtt ctttctattc accattgcag 300
gttgtcaaag ccatcgagaa ggccataccg attccgagag cgcaacccat tgccttggat 360
ggcccagcaa gggaagagct gaaggccatg gaggcgcaga aggtcgagat cgaccgcacc 420

8

```
gcggcgctcc aggtgcgccg tgagctttgg ctggggctgg catacctcgt cgtccagact  480
gccggcttca tgaggctcac attctgggag ctctcatggg atgtcatgga acccatctgc  540
ttctatgtga cctccatgta cttcatggcc ggctacacct tcttcctccg gaccaagaag  600
gagccctcct tcgagggctt cttcgagagc cggttcgcgg cgaagcagaa gcggttgatg  660
cacgcccggg atttcgatct ccgccggtat gacgagctcc ggcgagcctg tggcctgccg  720
gtggttcgga ctccgacgag cccctgcaga ccgtcgtcgt cgtcgtcgtc gtcttcgacg  780
caggagagcc attgccattc ttactgccat tgccaatgat ctttgtgctg ttctgttctg  840
ttgtcagaat tttttcatgc ccagtttatg ggggttaagc tagcttctcc attgtaccgt  900
tctgatgtgc ggatgatgcg atgcaaagca tagtttgttg aagagatgac aaggcagatt  960
ttagcttgaa aacctggagg tgagaaaaaa aaatcctgat gtgtttgtgt gtgtga      1016
```

<210> 25
<211> 676
<212> DNA
<213> Oryza sativa L.

<220>
<221> misc_feature
<223> PCR marker S10602 KpnI

<400> 25
```
accaccttca tatgaagaaa ttaacggtgt tttcatgagg aatccaacag tcgctgaatt   60
ggtggaaact gtggaattct tcttggctga ggtaaccaat catcacttca ccacaatgca  120
caagtttgta gcttactact acagtacttc taataagttt tgtctgttga gattttattg  180
ctgatttcta tgcatggtca tcttttttgac aggccatcca gtcttatcgt gctgagagtg  240
aaactgagct caacctggca gctggtgact atatagttgt ccggaaggta cggccctatc  300
ttcccattgg acatgtttct aaccataaac atatctttgc tggactttttg tgggcaaagt  360
tggctacact aaacttgtgt tcattaacct gctcaatcag gtgtcaaaca atggatgggc  420
agaaggtgaa tgcagaggga aagctggctg gttcccttac gactacatcg agaaaaggga  480
ccgtgtgctt gcaagtaaag tcgcccaggt cttctaggcg ttcaatgagc catacataca  540
taaccctggt gttgtacact gtattatgat cgttcgtgat cttcaaagac cctctgatca  600
gagaaatcac aaatattctt ttgttctatt attgtcatta tcactacccc ttttgtcaaa  660
accagtgcag cctttt                                                 676
```

<210> 26
<211> 1059
<212> DNA
<213> Oryza sativa L.

<220>
<221> misc_feature
<223> PCR marker Tsp509I

<400> 26
```
gcgagatcat gaacttgatt ttctggttgc catattgggc ttgcttgtta accttgtaga   60
gaaggatagc cttaataggt aagtccctca catgcttcct tccatttgct caattcatat  120
cagtgttact gttctggcag ttccttgggg tcaggactca gaaacatcca attaatgttc  180
atgttctctt aacgactcag aaatacttta taacctctcc acagggtacg gctttcatct  240
gcccgtgttc ctgttgatct atctcagaat ccacagagtg aagagacaca gagagatgtc  300
atagcactcc tctgttctgt attcttagca agtcaaggtg ctagtgaagc ttctggaact  360
atatcaccgg taattcaaaa ttcttcaagt tccttttgta tgtagattat atctttgtaa  420
aactcggcat ttattacctg ctctttgttt caaaaagcag tatttttatttt tgctccttag  480
cataggtcag cagaacagtt gatcttattc agaaacaat attttgcatg taacatactg  540
ttatctatga gatgaaaatt aatgcatgtg taataatgtc aatgataaat atttgctatc  600
tgaatccagt ctaccaactc tagttagacc gaattactga ggttctattt caaagaataa  660
tttagtgcac catttgttca actactatga agtaaatgg tattcccttc tattgacatc  720
gggttagaag tgaaaggcca tcttaatgcg atgttctcaa tgccacaaac ccacaaattt  780
```

9

```
cattaacaca tacagattat tattaacata gctataaatt ggatttccag aagcttgagt 840
tgaatttatt ttgttacaat tgaaagcact gggaacatta gcattttttt ttagttcttg 900
gttattgcaa tttataatgt tatacagaac tgtgtacctc acaatgcatt cattatgaca 960
ttctatgaac catttgattg actgttgctt gtaaacaaca ggatgatgag gagtctttga 1020
tgcaaggagc acgggaagct gaaatgatga tcgtagagg                        1059


<210>  27
<211>  76363
<212>  DNA

<220>
<221>  misc_feature
<213>  Orza sativa IR24

<400>  27
gatcaactaa caacctcttt gcagcaaaaa agcatacaca caagtgtttg tcttggcctg 60
gggctctgca gatggactga tactctgacc tgcagtgggc ttgggagcta acaatggttt 120
cattcttttt ttttttatgt tttcccctgt tgtttttgct catgttttgt gtaatttttt 180
cttctcatct agcgatgtta tttttcttag catgatggga gtagccctcc ttttttttttc 240
tctaattaag tgtaaagtag caacagcata gggatgaatg ttcagtgtag tgtgtggtgt 300
ttcagttatt cagagacgtc catacagttt gtaccttgtg accacgtc ttaatctgat 360
gaagcttaga ataaatcaca tgttagcaat gcaatatcat ctgcgtcttc tctcactttg 420
gtggccatca aattctgtgt agaagtgtat ggttggtgtg ctgttgcaaa tgccgtattc 480
cgctctgttt tgtggaagtt aagaagtccc tagttgaaat accgatttt catgatctcg 540
gagattgatg caactctgat tgcagcattt ctttttatta gaatgtacac tccatgctat 600
catgatgttt attgtttagt actacaagat ttggttaacc attattttaa tatcataata 660
attttataaa atcttggagt aacaagttca taatacatga tagcataact ttttgaggct 720
agtctatgta tattgtctcc tttgttttta aactaagcac tcaataaatt attgatggct 780
gtaattttct gaaggtttca ccggtttcgg cccgtgcttt ataaatagct tcggcacaaa 840
agacaaaacg gtccctccaa cacataaatg gttgagttta cgttttcatt atctttggta 900
aaatcaagtc caccacgtag acactcataa caaaagtttg aatatcctca gaaattttga 960
cttgagtcta tcttaccttt gatatcggac atccaaccct ccctccctcc ctgaacttta 1020
tattattcat attacacctg aactttatat tattcatatt acaccctgaa gtggttttca 1080
tttaattgca tacatgctga aatagtttga caacgtgaga tgcactaaaa atctacacgt 1140
tcgtcttaag ttgcaattca ttttatccct tttcttttc tctcttacat aggaatatca 1200
atagtactaa ttcacattac aatatagtat aaattggtaa tcgattattg gcaatatact 1260
atattaaata ttcaaaacta gtcatttaag ctgccaaata agtaaaccac tatcgaaaac 1320
cacaatataa atggcattac aaaacttagg gggttgaata tccaatttta aagttcatga 1380
tgctagagga atttctatca aaagtttatg ggtacatatg gactttttcc tttttaaaag 1440
aagctattct tgtcgtaaac gttaaatatt ttttgtactt tatttttat gattgaaaaa 1500
aaaacttagt tttcaaaatg attggtctgt atacaagcat caattagact taataaattc 1560
atctaacagt ttcctggcag aaactgtaat ttgtttttgt tattagacta cgtttattat 1620
ttcaaatatg tgtacgtata tctgatgtga caaccaaacc caaaaatttt ccctaactcc 1680
atgaggcctt acagatatat ttgatgggtg taaagttttt taagttcttt gggtgcaaag 1740
ttttaaagt atacggacac acatttgaag tattaaatat agacaaataa caaaacatat 1800
tacatattct gcctgtaaac aacgagacaa atttattaag cctaattaat ctgtcattag 1860
caaacgttta ctgcagcatc acattgtcaa atcatagcgt aattaggctc aaaaatattc 1920
gtctcgtaat ttacatgcaa actgtgtaat tggtttttt ttcgtcaaca tttaatactc 1980
catgcatgtc caaatatttg atgcgatctt tttggccaaa ttttgttgga atctaaacaa 2040
ggatcaaatt tgctgaattt ttccagacgt cacggcttgt tcatccatcg ttcgcatcgc 2100
gattcgccac cgacgccttg gtttccaacg aattttatca tccgcttaaa tacatccaaa 2160
gctctccatc gccatcggcg gccaacggcg accgctccgc tctacccaat ccacccatcc 2220
actcgccgcc gccccctgat ccaaagcctc cgccgcgccg ccgtcgagag gaggaggagg 2280
aggaggagga ggaggcgtga gcccctatgg ggaccctcct ccggccgcgt ccgcttgccc 2340
acgccgccgg cgccggcgac gccacgccgt cgaccgcgca cggtagccac gcgcctctcg 2400
agaggccccc ccccccgcc gctcgctgat ctctcttctc atcctgtttg ggtttgggtt 2460
tgtgatttgg gtgttttttt ttttccgca gcggtggtgg tgagcggtgg ccgcggccgt 2520
```

```
ggcgtggagt gccagccgca tcgggtgcgc cgccgcccgg gtccgcaggt tgcggtggcg 2580
acggcgagct ggaggaggcg gagggagacc gtggtgagat cggatttcgc cgctggtggt 2640
gccgctacca tgggggattc gccgcaggcg ctctcaggtt tgcagcctcc tccactctct 2700
tctcgcaaaa tgtgttgcta tgttcctctc gctgggctgg cctcatagcc attaatgtag 2760
tttgctggaa cattacattc ggaacgttgt tggcaattgc ttgacaaaat gtggaattgt 2820
ggaggggaga aaaatcgttt gaacctgcag tgacaaaatt gccatctata attttaaaac 2880
tgaaggtgtg gaaatcaaac ataatcattg ccagcacatc attcttgtta accaccttga 2940
catattgttg gcttataaca gttagctcca caccaacttg gaaggtgtca atggaatgta 3000
agtataaatt gaggataact ggcagttgtt aagactttct acagaacttg tagcagctaa 3060
aactagctat tgtgcattta tgtttcatgg aatttgagcg gcaatggata tttcttacta 3120
agacgtataa tgcaaaaaaa aaaaaaaaac tatgtctatg cagtttacat gtaatgtgcg 3180
gatgcaaata aaatcatgtt catggacaaa ctaatgggat tcataccaaa ttccagaatt 3240
gcatttctta tgtggttact tttgtttgtt gatttggtta ccagacatcg atgtggtttc 3300
aagggtcaga ggggtttgct tctacgcggt gactgcagtt gcagcaatct ttttgtttgt 3360
cgccatggtt gtggttcatc cacttgtgct cctatttgac cgataccgga ggagagctca 3420
gcactacatt gcaaagattt gggcaactct gacaatttcc atgttctaca agcttgacgt 3480
cgagggaatg gagaacctgc caccgaatag tagccctgct gtctatgttg cgaaccatca 3540
gagtttcttg gatatctata cccttctaac tctaggaagg tgtttcaagt ttataagcaa 3600
gacaagtata tttatgttcc caattattgg atgggcaatg tatctcttag gagtaattcc 3660
tttgcggcgt atggacagca ggagccagct ggtatggctg tagtctcatc cctgctttct 3720
taagtagaca tatatacatt tacagtattt ggtaaataaa caagatttta tgaatcatat 3780
atgattttgg ggaaaacaca aaactctctt tgttggctgc cttgaacata gttctgttca 3840
cacagttata gcaccttctt taaaatgaag aactttgttg catacacata aggccaaacc 3900
acataatgaa ttttgtttat ttctatcttt gaatgttagc atcgtttttg tttaatgcat 3960
gatcgccttc ctatatattt gtagtatgtc aacattgtat tccatgctga gcataacaaa 4020
tggtttgtta aaattcagga ctgtcttaaa cggtgtgtgg atttggtgaa aaaaggagca 4080
tctgtatttt tctttccaga ggggactaga agcaaagatg gaaagctagg tgcatttaag 4140
gttcagtaac caaacttagg ttacattaca tctaatgaga ttttatatt cagtatataa 4200
tgttaacctt ctcatggtgt actgacgtgg ttataaatgt ccccagagag gtgcattcag 4260
tgtggctaca aagaccggtg ctcctgtgat acctattact cttctcggga cagggaaact 4320
gatgccttct ggaatggaag gcatccttaa ttcaggttca gtaaagctca ttattcacca 4380
tccaattgaa gggaatgatg ctgagaaatt atgttctgaa gcaaggaagg tgatagctga 4440
cactcttatt ctaaacggtt atggagtgca ctaaagaaag atggtgtttt tttttattat 4500
atggaaccta ttcaaaggca cagacaggct ttcaaggcta agcttgttac aggtactgat 4560
actagttact aattactttc gtaatcagta taaataagct tgtgtagtgt aatggcattg 4620
tacatttctg cacttggtaa atttacagaa gaggcaagta atattttaga ggattgagtt 4680
tattcaccca gtcatatagt tgaagaggca agtaacctgt aagagaggac tgaacattaa 4740
cacctcttgt tcgattaaaa atgaccaaag agcatcaaac atgtattcga ggctgttact 4800
ttagatatgg cccattaatt tgtttagttg tctatgtaca tcctagttgg tgtaaatgcc 4860
agttaccatt tctatgatct aaaacaatca actctttag tatattttca aaaacgaaat 4920
tcagtacaca tgtatgaatc ttaatattct tctctagctc gttacaaaag caacaaaggc 4980
accgtgtcag ctggttcaca ttagctagtt tgtacttagc attatccact agcaccttat 5040
tttcatgcat atcatgctaa tttgcttgcc cacgttgagt gggaatttt ttcatgtttt 5100
ataatttata tatgtttag acttctagtc cacaatttat gtacttcatg ttcctgagcc 5160
tctagtatgg ctgatagcag actaggtgct gagtgctgtc cttttttgca gactgaagag 5220
agaagaaata caagactgtc cattgttagt cagatttgta aaaatagact ctgatgtagt 5280
ttacttttgc ccctatttta tttttaacaa tacaaatata taacagatcc taagaactta 5340
tcttaattta ggagaagttg ctcgtttcat taaattaaat tgtgaagtaa aaatgtgtgc 5400
tcgagtctgt caatgcaatc ctgtgttctt gtttgaagat atggtgtagg gcaggccagg 5460
attgaacact gaatggtaag actgcttctg ccttcagacg ttattgctaa attttttagct 5520
acttgcagtt agtgctgcca cgccgattaa gcagtagaac aaagtagttt tgtcgtgcac 5580
aaatgagtta tatttcattg gaaatcgaag cgaaacgaa tcaaagtta gaagaaaagg 5640
ggaaacttgg taattactcc ataaagagag tgcatttat tggtaagatg gtatccggaa 5700
gctgtgagct ccgggctgta tgtattctgg caaatttgat atgagatgct cgattattgg 5760
cttaagttag cgatatcaaa tttggggaag caccaaagga attattgtga aggagttatg 5820
ggtgcgtgac gttatctgct aggttcaaat ccttgtggct atgaatattt atctgctagg 5880
ttcaaatcct agtgactatg aatattaatg ggtaaggtaa gggatttatt gttaatttta 5940
```

11

```
gtttctttaa gattgtgcca tcggacgcca ttcggtaact gtaataatgc tttgtattgg 6000
attcacttgt gttacatgca cgcactaaac atgtgcttta ccttttcatc tgttttttgcg 6060
ttctgggcta gaaactcaaa cgttgaattt tccatggtct gctcaacttg acaattactg 6120
cgtgtcaagc gatcttatac gcatactatg cgcacaagtg attgtatacg gatatgatga 6180
cagtataacg tgtgatattg attttttttaa taaaaaaatg atgttcattt ccttgatgaa 6240
ggaacaaaga cttttttttaa aagaagggta ttactaaaaa caaaaatgac aaaaacaaaa 6300
tatcagtgca catggcaagt gtgctcggca attttttctc tgtactttaa acaaaaatac 6360
ttctatatgt tctttttttat aagggtggca caaatctttt aaatgagcca aatatctaca 6420
ttggatttat taaaaactgt ataaattata atttatactc tgaaaggttg tgtgcatctc 6480
tcttggagaa aatgtataag ttgcaaacaa acattaatcc acgttatgta actttttttc 6540
gccggaaagg ccgaaggagg cctgacggag cgtggggctc ctcaccggga gaccgcgcag 6600
gccccccttt gccggttcgg ccggggactc agggtgaaat tctaagctct ctgtatgtgg 6660
aaggttcgcg accgtcgaaa gagcataaga cacgggcgat gtatacaggt tcgggccgct 6720
gagaagcgta ataccctact cctgtgtttt gggggatctg tgtatgaagg agctacaaag 6780
tatgagccag cctctccctt gttctgggtt ccgaatctgg aaaagtccag tccagtcccc 6840
ccctctaagt gggcaaggtc ctccttttat atcttaaggg gataccacat gcaccatctc 6900
cctcctttct gtggagactt accctacctt ttcataaatg gacggagatt tgtatagttg 6960
ccgtccgaat gaccttctga taggacggcc catacctacc tccacttccg ccgaaagcag 7020
gtgcgacgtg ggattatggc tgtctgctga cgacatgacc agtgtcagac tggtcacaaa 7080
ttgctcattc ctgtccacca cgcgtcagtt tagcaatcta catgttggcc cttcttcaca 7140
caacatcttg cctgtaatgg ttaggatgaa gcctggcata tatctaacca ggactaacgt 7200
gccatctcta ggaggtaaca cgctagctcc agctggggac gagcgcctag aagccctcgt 7260
cctgacggga tggggcgagg cgtgcgtcag atcgcctgtc gccacctaac ctgcgatctg 7320
accggtctgt gactggtcac agaccggata aacgagtgca ctgcacttcg ttacatgcag 7380
cgtgacacgc tcagccaaac cgcaataaat gtggttaggt gagccccgct gtgctcacct 7440
aacccataca cgcggagcaa aaacccacga ggggtcgggg cgcctcggcc ctcggggccg 7500
aggcgggtgc ggtccgaccc cctcgggggg actaagagga gggcgaacac atcaccctcg 7560
ggcccgacgt cccccgaggg tgccaggcca cgtgggcgat tgtgtctgcc tcaaacctct 7620
agtcatgata ctcctgatcc catgtcaccg acagtagccc ccggcgttat gccagggcga 7680
tcgccctctt taagggaagc ggtcgggcgt gacgccactc ctaaggcctg gtgacaggtg 7740
ggaccggtct ccacaattgg gcagaaaccc aacggtcaca aatcacgcac atcggcaatg 7800
gtaactctac tatcaataat gagcggtctc ttcaagactg ccacattact cgagtagcac 7860
acgaatctgg acatggcgat tcgtttcgtc tggagatatg gtaacgtcgc tttggtcggc 7920
gagcgtaatt aacgcgcgca cgatatgatc tatctcgact gccacaaccg catatccacc 7980
tcatgcgccg caagcgggcg aatgggatta gtggaagcgt gggcgcgaga aacgaggggg 8040
cgaaatagtg ggcgcgagaa gcgaggagcc gggcacagcg ttggcaagag tataaaggca 8100
ctgaggaaag gatctgtttc cttcctttcg ccatcatttc ccttgtcttc gccgcttgcg 8160
ccctaactcc ttctttcctg tgctctactt tcgccacacg cgctcgctct caatcttctc 8220
ttcctccggc gccatggcac ggggctccgc tctgctcgat ggtagcgtgc tgccgccttc 8280
ccgcatcgtg agcgagaggc aggctgggct gccgcgccgc ttcatgccgg aatctgccac 8340
cggccgggag atagtcacgc tgggcgaggg acgcccggcg ccagactacc cggggcggtc 8400
cgtcttcttt ctccccttttg caatggcagg gctggttccg ccattttctt ctttcttcat 8460
ggatgttctg aagttctacg atctccagat ggcgcacctc accccaacg cggtgatgac 8520
attggccatc ttcgcgcatc tgtgcgagat gttcattggg gtgcgccat ctcttcggct 8580
gttccggtgg ttcttcaccg tgcagtcggt gtcgccgcca tcggtagttg gtggctgcta 8640
cttccagcca cggggggccgg tgctgaatcg ctacatcccc tgcgccctcc gcaagaagtg 8700
ggacgactgg aagagcgact ggttctacac ccccctcgcc gacgaagcgc gcctccgact 8760
tccgagccag cccccggcgc aggcctccag ctggcgggcg ccggtagatc tggggggatgg 8820
ctatgacgcc gtcctcgacc gcctggcggg cctacgatcc cagggctca cagggaccat 8880
ggtgtacggc gactacctcc gtcgtcggat tgcgccgctc cagcggcgcg ctcggggcgc 8940
ctgggagtac accgggtccg aagactacat gaggacccac cagggagtca gatgggactg 9000
ggctcctgag gatttcaaga tagtggtcca acgggtgctg aatctcaact ccatggaggc 9060
gtccctcatt ccccaaggaa tcctccctct ctgcagcgat ccagaccgcg cctccatcct 9120
gaccattatg acggcggtcg gggcctcaga ggagtgagct ccaaagggcc acgacggcgc 9180
aggcgggagc cgtaggggggg atcaatctac ccggggaggg ggtcgtgctt ctgggtctcg 9240
cgacggaggc ccgaggagca gccgccctgc cgacgcccgg gggaagagga agcagggagg 9300
aacacctccc ccatctcctc cccgaggggg cggggcggtg cgtgccagca gcaggcgccc 9360
```

12

```
ggagggggcc gcgccgacat cgcagcccga gggggagcgc aagaagaagc ggctccgcaa 9420
gatggggggag acagaaccat ctcagggaaa ccttatttcc cctctaaagt ggtcgtttaa 9480
ccgaccccct cgcaggttcg tctctcaccc atcgtggctg tattcattct ctcaacgcga 9540
gttttcactc acccatcttg ttcgtcttct ggtctttttct tctgtttcag cgagatcccg 9600
tcgcgtccct cccgccattc caagtccggc cagtctgagg ccgaggatcc ggcggccgca 9660
gaggcccgga ggcgggaatc tgaccggcga gaggccgcgg atcgcctacg ggaagccgag 9720
gaggccgccc aggaggccgc ccgggctcgc caggtcgagg aaaccgctcg ggaggaggcc 9780
gcccgggccc gccaggccga ggaagccgct cgggaggagg ccgcccgagc ccaccaggcc 9840
gaggaagccg ctcgggagaa agccggattt cgccaggacg aggcaatggc gacttccgag 9900
gcagctcgcg atgaggtcgc gggcgcgtcg cttgagccca cttcctcggg cgacgctcag 9960
gcgacaactt ccggggcagc tggcgacgag gctgcgggcg cgtcgcttgg gcccactccc 10020
tcaggcgacg cccaggacca accaggtccg agggacatcc ctgagtccgg cacttccatc 10080
ggcggcccga gccgcgtggc atcctctcca aggcggctct tccccacgcc ttctatcgcc 10140
ccactgagcg cagagcccct tctgcaggcc ttggccgccg caaacaccgc ggtgttggac 10200
gggcttagtg cccaggtgga ggccctgcaa gcagagtggg cggagctcga cgccgcgtgg 10260
gcgcatgtcg aggaggggcg cgcgctcagtg gaggccatgg tggaggtggg ccgcaaggca 10320
caccgccggc atgtctcgga gcttgaagcc cgtaagaagg tgttggcgga aatcgccaag 10380
gaagtggagg aggagcgggg ggctgccctc attgccacca gcgtgatgaa cgaggcgcag 10440
gacaccctcc gccttcaata cgggagctgg gaggcggagc tagggaaaaa gctcgacacc 10500
gcccaggggg tgcttgacgc tgccgctgcc cgagaacagc gggcggggga gaccgaagcg 10560
gcgtcccgac ggcgcgaaga gacccttgag gcgcgcgcca tggcgctgga agagcgcgcc 10620
tgcgtcgtgg agagggatct ggcggaccgc gaggccgccg tcactatccg ggaggcaaca 10680
ctggcggcgc acgagtccgc ctgtgccgaa gaggagtccg cactccgcct ccacgaggac 10740
gcgctcaccg agcgggagcg agctctcgag gaggccgagg ccgcggcgca acggctggcg 10800
gacagcctgt ccctccgcga ggcagcgcag gaggagcagg cgcgccgcac tctggaatgt 10860
gtccgcgccg agaggaccgc actgaaccag caggccgctg acctcgaggc gcgggagaag 10920
gagctggacg cgagggcgcg cagcgacggg gcggctgcgg gcgaaaacga cttagccgcc 10980
cgcctcgctg ctgccgaaca taccatcgcc gatctgcagg gcgcgctaaa ctcgtccgcc 11040
ggggaggtcg aggccctccg cttggcaggc gaggtagggc ccggcatgct ttgggacgcc 11100
gtctcccgcc tagatcgcgc cggtcggcag gtgggcctct ggagagggcg gaccgtaaag 11160
tacgccgcca accatggagg cctcgcccag cgcctctcga agatggccag ggctctccaa 11220
cggctccccg aggagctcga gaagacaatt aagtcatcct cgagggacct cgcccaagga 11280
gcggtggagc tcgtactggc gagttaccag gccagggacc ccaatttctc tccatggatg 11340
gcgctggatg agttccctcc tgggaccgag gacagcgcgc gcgcaggtcc gggatgccgc 11400
cgaccatatc gtccacagct tcgagggctc agccctcgg ctcgcgttcg cccccaactc 11460
cgacgaggag gacaatgccg gtggtgcaga cgacagtgac gatgaggccg gcgacccggg 11520
cgtatcggat tgatcccca agcccccgcc attctttagt tttttcttct tttccttctt 11580
ctaaggcctt cgggcctctt ttttgtatag atcaacttaa tctgtaatca aaaatgaaga 11640
aatttttgtg tcaatttcat cttgctgtgt gtatgagatg aggatgatct gtgacgtggt 11700
ccttttgcgt cttagcttga ttaagggctc gtgcccaggt cccagtcctc aaaaggcgtg 11760
ggtcggggct agtgcctggg gagatccaca tgtcgagact ggccaggccg ggaacgtggt 11820
gaccgagggt tatgggtgac ccgattgtgg gttttttgccg attccccccc ggagttcacc 11880
acgccccggg gcacggctcg gttctgggcc ccgtttggcg attttagccg acccgagccc 11940
ccgagggcag gattgagcac gagtgaccta tttcaagtca agattcttca aaaggaaaaa 12000
aaaacacaga tacagccttt aggaaattga aactgctttt attgaaatac tgaaataaga 12060
gaaataagaa tgtgcatgtg tggcagcccc cggccaacgc tgcacgcccg aggggggtgcg 12120
gggttggccc gagcccgaaa cctgacaccc gaccccccc tcagggtag aagcgacgaa 12180
ggtgttcgat gttccacggg ttaggcagct caatgccgtc gcccgtggcc agccgtatgg 12240
agcccggccg ggggacgccg accactcgat acggaccctc ccacattggt gagagcttgc 12300
tcaatccagc acgcgtttgg acgcggcgta ggacgaggtc gtcgacgcag agtgatcggg 12360
cccggacgtg acgctgatgg tagcgccgca ggctctgctg gtagcgcgcg gctctgaggg 12420
ccgcgcgccg ccttcgctct tccaagtagt cgaggtcatc tctgcgaagt tgatcttgat 12480
cagcctcgca gtacatggtg gcccgaggag acctcagggt gagctcggat gggagaaccg 12540
cttccgcgcc gtagacgagg aagaaaggcg tttccccggt tgctcggctt ggtgtagttc 12600
ggtttgccca gagcaccgct agcaactcct cgatccatga atcgtcgtgc ttcttgagta 12660
tgttgaaggt cttggtttta aggcctttga ggatttctga attggcgcgc tccacttggc 12720
cattgcttct ggggtgggca ggtgaggcga agcagagctt gatgcccatg tcttcgcagt 12780
```

13

```
agtcgccgaa gagttcacta gtgaattggg tgccattatc cgtaataata cggttaggca 12840
ctccaaaccg ggccgtgatg cccttaatga atttaagtgc ggagtgctta tcgatcttga 12900
cgaccggata agcctcgggc cacttagtga acttgtcgat cgcgacatac agatactcaa 12960
acccgcccgg ggccgcccta aacggtccca ggatatcgag cccctagaca gcaaatggcc 13020
acgaaagtgg tatggtctgc agggcctggg ccggctgatg gatttgcttg gcgtggaatt 13080
gacacgctct acatcgccgg accaggtcga ccgcatcatt gagagctgtc ggccaataga 13140
aaccctggcg aaaagcttta ccaaccaagg tgcgcgaggc ggagtgggct ccgcattcgc 13200
cttcatggat atcggcaaga agcacaacgc cttgttcccg aggaatgcac ttcaggagga 13260
ttccattagc cgcgcgccga tagagggtcc cttctaccag cacgtagcgt ttggagatgc 13320
gatggacgcg ttcactccct tcgcggtcct cgggtaaagt cttatctgtg aggtatgctt 13380
ggatctcggc aatccaagca atcaatctaa gggagctggg agcgctcccc tcgggtcccg 13440
aggcctggac ttcgacgggc ctcgggggcc ggtcaggcgc gtccgtctcc cctaaggggt 13500
cgggtcgcgc cgacggctgg gcaagccttt cttcaaaggc gcccggtggg gtctgggctc 13560
gcgtggacgc gagccgtgag agttcgtcgg caatcatgtt atcccgtctg ggcacatgcc 13620
gaagctcaat cccgtcaaaa tggcgctcca tacgccgtac ttggcgcacg taggcgtcca 13680
tctgcgggtc agagcaccgg tactccttac agacttggtt aacgaccagc tgggagtcgc 13740
ctaacaccag gaggcggcgg atccccagtc cagctgccac tctgagtccg gcaaggagtc 13800
cctcgtactc tgccatattg ttagtcgctc gaaagtcgag gcggaccaag tatctgagga 13860
cgtctccgct cggagaggtc aacgtgaccc ccgcaccggc gccctgaaga gacagggagc 13920
cgtcgaactg cattacccag tgggcggtgt gaggcagctg cgaggggtcc gtgctggcct 13980
cggggattga gacgggctcg ggagccgggg tccactctgc cacaaaatcg gcgagagcct 14040
ggctcttgat agcgtgacgt ggttcaaagt gcaaatcgaa ctcagaaagt tcgattgccc 14100
atttcaccac ccgtcctgta ccctctcgat tatgcaagat ttgaccgagg gggtaagacg 14160
taaccacagt gacccgatgc gcctggaaat aatggcgcag tttcctcgag gccatcagaa 14220
tagcgtaaag catcttctgg gcctgagggt atcgggtttt ggcgtcccgg agggcctcac 14280
taacaaagta gacgggccgc tgcacctttc ggtggggccg atcctcttcg ctaggggccg 14340
catccctggg gcactcttcg tccaagcagc ctcgcggggc gcacttgtct tctgtgctga 14400
tgacctcggg gtcggaggat aacaggggcg gccttcccac agtggctttg gggccgtcct 14460
gggggtcagg ggctcctggc gtcgtcggac aagcgggcaa agggccaact ccggtcgtca 14520
ggggccttag gcctccgttc ggctcggggg cctcttctcc ctgctctttc ccgggtcgag 14580
tcagcacagg gttagcctcg gggtcaaagg gcgataggtg cggccttccc acagtggcct 14640
cagggccttc ctgggggtcg ggggctccta gcaccgtctg acaagcgggc agagggccaa 14700
ctccggtcgt cggggggcctc aggccaccgt tcggctcggg ggcctctcct ccctgctctc 14760
tcccgggcca agtcggcaca gggtggggaa gcgcgaaatg agaattatcc tcatcgcgct 14820
ccacaaccaa tgccgcacta actacttgcg gggtcgccgc taagtagagt agcaagggct 14880
cgtctggctc cggggcgacc ataactgggg gagagcttag atacgccttc aactgggtga 14940
gggcattttc agcttccttc gtccaggtaa acggtccgga gcgtttgaga agcttaaata 15000
agggtaacgc cttctctccc agcctcgata tgaaccgact tagggcggcc atgcaaccgg 15060
tgacgtattg cacatcccta agtttgctgg ggggcgcatc cgctctatag cccgtatctt 15120
ctcggggttg gcctcaatgc cccgggcaga gaccaagaac ccgagaagct tgcccgcagg 15180
tacaccgaac acacacttat cggggtttaa ttttatgcgg gcggagcgga gactctcaaa 15240
agtttccgct agatctatga gtaacgtttc ctggttgcgc gtctttacaa ccaagtcatc 15300
gacataagcc tcaatattac gtcctaattg gctaccgaaa gaaattcgag tagtacgttg 15360
aaaagtagga cctgcattct ttaacccgaa gggcattgtc gtataacaat aggttcctat 15420
gggggtaatg aacgcagttt tttcctcatc ctccctagcc atgcgaatct gatggtaacc 15480
agagtatgca tctagaaaac acaaaaggtc gcaccccgca gtggagtcga caatctgatc 15540
tatgcgaggc aggggggtaag gatccttagg acatgccttg ttaaggtcgg tgtagtcgat 15600
gcacatccga agcttgccgt tcgccttggg aacgaccacc gggttcgcca gccactcggc 15660
ggggttgacg ctgccatcat attttttcggc gatggtgggc cggaaccttg ggggccaacg 15720
gacattccga agactcgcca caaaggctct acagccgaca ccaccaaccg ggggcacgga 15780
gggctgattc ccgcgtccgt gttgaggtga cactctggac gaggaagcgc cctccgttgc 15840
gtgggcagca cttcggtcat tacgccggcg ctcgatgctg gtgcgggcgt ccggcccccc 15900
acgcagatct ttctgggtcg aaggagtcga cgaaggagtg gcggccgaat ggcgaacagc 15960
ggctgccgct cgtcgtgccc tccgtcttga cgacgcggag ccggtggtag cagcaccaga 16020
ggccttggtg gcggaggacc gcccaccagc atctaggcgc tgccgtgccg tcatgactaa 16080
tttggccacg tcgtccagcc atcgttgggc tggagactcc gggtcaggga cgacaggcgg 16140
gtgacgtaag agcgcgcccg cagcttggag cgcgccctgg ggcgtgctgc cgtcgccgta 16200
```

14

```
gacgaggagg cgacgctccc catctcgccg ttcttctcca tcgcccgcga tcggtgaagt 16260
cgcggatctt tcgaccctct cgagcgcctc cccccgctta ggactttggc atggagggag 16320
cggtggagta cgagctcgac ggcgtgggtt cggctccccg tcgtcgccac tcacactcgg 16380
agagaggtcg tgcgcctttg cttgctcggc catcaggctg aacaggaaaa gcttggcgca 16440
cacggaagag tacgagagct cagaaaaaca cacactgagt cccctacctg gcgcgccaga 16500
tgacggagcg tggggctcct caccgggaga ccgcgcaggc cccccttgc cggttcggcc 16560
ggggactcaa ggtgaaattc taagctctct gtatgtggaa ggtttgcgac cgtcgaaaga 16620
gcataagaca cgggcgatgt atacaggttc gggccgctga gaagcgtaat accctactcc 16680
tgtgttttgg gggatctgtg tatgaaggag ctacaaagta tgagccagcc tctcccttgt 16740
tctgggttcc gaatctggaa aagtccagtc cagtccagtc ccccctcta agtgggcaag 16800
gtcctccttt tatatcttaa ggggatacca catgcaccat ctccctcctt tctgtggaga 16860
cttaccctat cttttcataa atggacggag atttgtatag ttgccgtccg aatgaccttc 16920
tgataggacg gcccatacct acctccactt ccgccgaaag caggtgcgac gtgggattat 16980
ggctgtctgc tgacgacatg accagtgtca gactggtcac aaattgctca ttcctgtcca 17040
ccacgcgtca gtttagcaat ctacatgttg gcccttcttc acacaacatc ttgcctgtaa 17100
tggttaggat gaagcctggc atatatctaa ccaggactaa cgtgccatct ctaggaggta 17160
acacgctagc tccagctggg gacgagcgcc tagaaaccct cgtcctgacg ggatggggcg 17220
aggcgtgcgt cagatcgcct gtcgccacct aacccgcgat ctgaccggtc tgtgactggt 17280
cacagaccgg ataaacgagt gcactgcact tcgttacatg cggcgtgaca cgctcagcca 17340
aaccacaata aatgtggtta ggtgagcccc gctgtgctca cctaacccat acacgcggag 17400
caaaaaccca cgaggggtcg gggcgcctcg gccctcgggg ccgaggcggg tgcggtccga 17460
cccctcgggg gggactaaga ggagggcgaa cacatcaccc tcgggcccga cgtcccccga 17520
gggtgccagg ccacgtgggc gattgtgtct gcctcaaacc tctagtcatg atactcctga 17580
tcccatgtca ccgacaaggc catccgaatg tattaaggag taaaagttac aagaaaaaac 17640
accataatgc accaatgtgc atgaccacac accatacact accccaagc acaaaccact 17700
gagggtgaag cctagcacca aacgaccgcc actaagtgtg accaaacgcc gctaggccta 17760
cggcagcaac acatagatga gacttcgaaa cgatgccac caaggtggtc acgacatcta 17820
ggatgctgcc atcgtccatc taaaaagatg tggttttcac ccagagaaac tcatcaagaa 17880
ggggagaggg taacccttga cagcgcccca aggaggttac gacgcccgaa ggcgtagccg 17940
ctgccggtcc ggtgaaccac cggactaggc ttccgcctag gaccctatag ccttgatcgc 18000
agatcaccgt ccaccactca gaaccaccac acagacaaaa ggtagcacgt agcttccacc 18060
acaccgcacc gacgcccctt cgtcggccga ctccatcgaa ccaccatccc tgagagctgg 18120
cccaggaccc ctccgttcca ccacccgccg gccgccttgc cagttttggc caaaggagaa 18180
cccgggactg ggtgacattg cttcggcagc ctgagcttcc cccgctggcg agctgctgtc 18240
tcaatccaac ctagaaactc cccgcaaaag aaggggatga gctctaggaa gggcgagggt 18300
gccgaccggc aacgaggaag acaacccatc gactccagct ccctttgcac taccatctgg 18360
ccctgcgcca atgccggata cgctgtcgct ccggctccgg cgccacccac ctgcaccccc 18420
tttgcctggt ctccgcgccc ctcctggctg cgtcgcgccg cccagctggc cgctaagggc 18480
accgcgacgg ccgcccggct accgaggcct ggccgcgcca tgggacagct cgcgctggca 18540
ccagcgagcc acggccgtcg cgctgttgcc ggcgccagcg agcacaaccg ccagctccaa 18600
gggccgagca tgccactgag ccgccgccgc tgccgcccgg ccggctgca cgtcaccggc 18660
gcacacgacc gcacgccgcc acgctccgcc tccgcgcccg aggcagcccc atgccattgc 18720
cgcgcacctc gcccgcccgc tgccgagccg ccaccgcgca ccttgctgag ccgccaccgc 18780
cgtccctagc cgcctcgtgc cgccgccacg ccagatccag gcgcgggatg gccggatccg 18840
gccttggggg cgccggatcc accgcctccc cacaccgcca cggcgtcacc acctccgacc 18900
gcagtgaggg cttcgtcgtt tgccccatcc tcatcgcgtc gaggaggaag acgccaagaa 18960
aaaagggcct cgccgctgcc ttccttgctc gctgccggct tcgccgccgg cgagctccgg 19020
cggcggcgag gtggggggaga agaagtgggg agtgggcagc tagggttttt tcgcccccca 19080
agccgcccgt gcgagagcga cggtgggggg gggggggact ttccaacctc ttccagtgtt 19140
ctagttctcc acgttatgta actcaatttg tttaaccata gaaagtaaga aacctaccag 19200
cgtgttaagc tctctttcat tcccttttctt cttcctggtt ttgcttccat cacatgtcaa 19260
gtgaagggtt cttaactacc attactccta cacatctaat ttttttctca gatctttcgc 19320
aggtatatat tgatgctaca tttttatgatc ttaagataat ctccttcaca ttaccctctg 19380
ctgaaacttt agcttgaacc gtcatcttca ccacaatttg agcccaattt gcacagagca 19440
caacgagcaa tagcttgccc ttacgttcat tatttagcat gaactactac taactaccca 19500
agaatcaata caccggttta ataacgccat tttatcacgt taatatatgt ttcattcaac 19560
acaccggttt tggcacagtt gcaaacttgc aataaattct ttcctacttc tccatcccat 19620
```

15

```
aatataacaa attggtatgt ctcgtctggt actaagttac tatattatga gatggaggga 19680
gcacttcttt tcttccaaaa tataagaata tagtattgga ttagatatta tctagattca 19740
cgaattcgat taggttgtct agatttatag ttgtatgtaa tgtataattc ggtaataggt 19800
tattacctct caggatggag ggagtagttt tgactttttt tttcttataa atcgctttga 19860
tttttatatt agtcaaattt tatcgagttt aactaagttt atagaaaaaa attagcaaca 19920
tttaagcacc acactagttt cattaaattt agcatggaat atattttgat aatatatttg 19980
ttctgtgtta aaaatgctgc tatattttc tataaacgta gtcaaattta aataagttag 20040
actaaaaaaa atcaaaacga cttataatat gaaatggagg aagtagtaga ctataacaaa 20100
tttaaaccgt gctttgattt tagagcatca ctaatatgtt agcaataatc tatccctaaa 20160
atttattttt tttcctaaac tgaaaatagg aagtggaaat actcctccat ctaagagaga 20220
gcctaaattc aataaaaaac taaaaaacta aaggtggatc cctctattaa actaccgcaa 20280
aaaatttatg ttttttttct cttccacgcg cgcagaacag atatctcgat caagttagca 20340
tgtaaaattt ttaaagagat accttatacg actccttccg tatttccaaa agcaaacgga 20400
tttaaaatct gactcaaata aagatctata tatccaattt acatgacaca tgtttcgccg 20460
aatttttata ttaataataa ttaatatttt taaaattaaa ttattagcaa tttgtttgga 20520
ggatttatca aaacaggatg gacgttgttt ataacagcgt ctagacctag acgcgcttgc 20580
aaactgcggc cacccttta tcacacaaat ttttgacaat ttgacacttt ccaaaaatta 20640
attttataaa ttaaccgtga ccaaaactta tttaaaaatg atctttttgt tgagcgcaaa 20700
atcgtatact tcagcgccaa atagcacggc gccgacctcc cccttcccct cccctctatc 20760
ctccactgct gccgcccacc tctccgtatc agctgcgtcg cgttggtttc cgccggcgct 20820
gctgctgctg caccagtccg ctagggcggg cgggcatggc gcgccgcgcc gcttccgcg 20880
tccgcgccgg cgctgttggc gcccttcgct cggagggctc gacccaaggg cgagggggcc 20940
gcacggggg cagtggcgcc gaggacgcac gccacgtgtt cgacgaattg ctccggcgtg 21000
gcaggggcgc ctcgatctac ggcttgaact gcgccctcgc cgacgtcgcg cgtcacagcc 21060
ccgcggccgc cgtgtcccgc tacaaccgca tggcccgagc cggcgccgac gaggtaactc 21120
ccaacttgtg cacctacggc attctcatcg gttcctgctg ctgcgcgggc cgcttggacc 21180
tcggtttcgc ggccttgggc aatgtcatta agaaggatt tagagtggat gccatcgcct 21240
tcactcctct gctcaagggc ctctgtgctg acaagaggac gagcgacgca atggacatag 21300
tgctccgcag aatgacccag cttggctgca taccaaatgt cttctcctac aatattcttc 21360
tcaagggct gtgtgatgag aacagaagcc aagaagctct cgagctgctc caaatgatgc 21420
ctgatgatgg aggtgactgc ccacctgatg tggtgtcgta taccactgtc atcaatggct 21480
tcttcaagga ggggatctg acaaagctt acggtacata ccatgaaatg ctggaccggg 21540
ggatttacc aaatgttgtt acctacaact ctattattgc tgcgttatgc aaggctcaag 21600
ctatggacaa agccatggag gtacttacca gcatggttaa gaatggtgtc atgcctaatt 21660
gcaggacgta taatagtatc gtgcatgggt attgctcttc agggcagccg aaagaggcta 21720
ttggatttct caaaaagatg cacagtgatg gtgtcgaacc agatgttgtt acttataact 21780
cgctcatgga ttatctttgc aagaacggaa gatgcacgga agctagaaag atgttcgatt 21840
ctatgaccaa gaggggccta aagcctgaaa ttactaccta tggtaccctg cttcaggggt 21900
atgctaccaa aggagcccctt gttgagatgc atggtctctt ggatttgatg gtacgaaacg 21960
gtatccaccc taatcattat gttttcagca ttctaatatg tgcatacgct aaacaaggga 22020
aagtagatca ggcaatgctt gtgttcagca aaatgaggca gcaaggattg aatccggata 22080
cagtgaccta tggaacagtt ataggcatac tttgcaagtc aggcagagta gaagatgcta 22140
tgcgttattt tgagcagatg atcgatgaaa gactaagccc tggcaacatt gtttataact 22200
ccctaattca tagtctctgt atctttgaca aatgggacaa ggctaaagag ttaattcttg 22260
aaatgttgga tcgaggcatc tgtctggaca ctatttttctt taattcaata attgacagtc 22320
attgcaaaga agggagggtt atagaatctg aaaaactctt tgacctgatg gtacgtattg 22380
gtgtgaagcc caatatcatt acgtacagta ctctcatcga tggatattgc ttggcaggta 22440
agatggatga agcaacgaag ttacttgcca gcatggtctc agttggaatg aaacctgatt 22500
gtgttacata taatactttg attaatggct actgtaaaat tagcaggatg gaagatgcgt 22560
tagttctttt tagggagatg gagagcagtg gtgttagtcc tgatattatt acgtataata 22620
taattctgca aggtttattt caaaccagaa gaactgctgc tgcaaaagaa ctctatgtcg 22680
ggattaccga aagtggaacg cagcttgaac ttagcacata caacataatc cttcatgggc 22740
tttgcaaaaa caatctcact gacgaggcac ttcgaatgtt tcagaaccta tgtttgacgg 22800
atttacagct ggagactagg actttttaaca ttatgattgg tgcattgctt aaagttggca 22860
gaaatgatga agccaaggat ttgtttgcag ctctctcggc taacggttta gtgccagatg 22920
ttaggaccta cagtttaatg gcagaaaatc ttatagagca ggggttgcta gaagaattgg 22980
atgatctatt tctttcaatg gaggagaatg gctgtactgc caactcccgc atgctaaatt 23040
```

16

```
ccattgttag gaaactgtta cagaggggtg atataaccag ggctggcact tacctgttca 23100
tgattgatga gaagcacttc tccctcgaag catccactgc ttccttgttt ttagatcttt 23160
tgtctggggg aaaatatcaa gaatatcata ggtttctccc tgaaaaatat aagtccttta 23220
tagaatcttt gagctgctga agccttttgc agctttgaaa ttctgtgttg gagttctttt 23280
ctcctacagt cgtattagag gagggatctt ctctttatgt gtaaatagcg aggtatgtat 23340
gtcacctctc cgaattattt ttactctggt tcctagacgg taaacaagca attatgttct 23400
gcctttgatg ccagaaaaaa cacaaaagtt tgtcgttatc tctactaacg gatcataaag 23460
gaatttgtaa ctggagtttc aaacttaatt tgtctaggca gtagttttgg cattagatcc 23520
aacattgtgt aggattcatt tgtgtgtatc aatctatagg gtttcattaa atttcgttta 23580
tgtgtactgt ttaggtgttg aatagtttga cttgtttttt aactgaacaa aagatactga 23640
aatcgttcca ttcaacaaac acatgttccg ttaatgaaat tattgtacgt taccttttgt 23700
tttcttactc acaagtgtcc tcttttctta tatcctatag attggtacaa caaattattg 23760
attcaatttt ggttttgaac attgatgatc ctccctgcac tattggtgca gctgctcttc 23820
tattcatttt gtgaagtgat gtgagtacct ctcaatccca tccttatgct tctgtgcatg 23880
cttcattcca attttttacg catatcgatt gttttctttt atataacagt ccataaagat 23940
aatcacatca tgacaaagtt atttatttct acagtatagt tatataagta ttcaccagtt 24000
ttccatgaat attttggcat gtgattacaa agaagattat ttgagaaaat ccatgctttt 24060
atttcatcat tttgtttgaa gttgaacttt aatttatggt gtaaatttca gttattattg 24120
ctagcagctc gtactcttta atggtataac ttcacttgtg cttattctcc aatatctccc 24180
ttcttgttgt tcaggttcaa gaaaatcatt tgttggattc agaatctggt gtccattttc 24240
ttcttaaatt attaaatcct ccagtgaatc ttgttgattc caaagcacca tcgataggtt 24300
ccaaacttct tggaatcagt aaagttcaaa tgcttaatgg atcaaataag gattctgact 24360
gcatttcaga ggaaatcctt tcaaaagttg aagagattct cttaagctgt caagtgatca 24420
agtcgctcga caaagatgac aagaaaacaa caaggccaga actgtgtcca aagtggcttg 24480
ctttgttgac aatggaaaat gcatgcttgt ctgctgtttc agtagagggt aagttttaat 24540
caaatttctt ggtcatgatt tcccttttatg accattatat ttatttatat gagccaaata 24600
agcagttgtc aacttgtcat aagttacata gcacctattt gcaatattca tgggtggttt 24660
gcttagccct tttcttcacc tgctttttgat tgatgacttc catctgtgtt gcagaattga 24720
attggagtag tggactgcac tagaagcacc tatggccatt gtcatactag gaaggttttc 24780
ccttatcaaa tatttgattg ttacagagac ttctgacaca gtgtccagag ttggaggaaa 24840
tttttaaagag acattaaggg agatgggagg tcttgatagt attttttgacg ttatggtgga 24900
ttttcattca acattggaga tgagatctcg ctaacatcgc atattttaca tttcctttgt 24960
tcaactctaa tagattgtgc aggcttgttc cttttcgcca ttttagcttt aatgcgcttg 25020
aagccacatg aaagtaatgc ttgtccagat acatagccaa aggttgttat attttggggc 25080
atggaaaatg cttgaggtag taactatttt catcaggaca tggaaaattg gctgcaacac 25140
aaattatgtt gttttatgtt gcaaaaatag ttttttaata ctttttttatt ctgcatgtgg 25200
tgttagtatc ttacagttcc tctgatgatt atatccccca cgataataac acttgaaacg 25260
ataataacac ttgacatatc tacaccaagt gaacattatt catttggatg ttacttttcc 25320
agctatactt gctgttcttg catgtgtaag caagtttgga gtaaattgcg cattaattta 25380
aatgcttggt gttcctatct gtgtactttt tattccccaa ctaataatgc aatcatatta 25440
cgctgataaa ctgaataaat aaattaacaa tatacttctg gtggcaaacc ttgtgtatca 25500
gaatctcata aaggatacat ccacttcagc tttggaccga aatgaaggaa catctttgca 25560
aagtgctgct ctcctcttga aatgtttgaa aatattggaa aatgccatat ttctaagcga 25620
tgataacaag gtaatgctcc ttatatgttc tgtttcagtt tagtacccat ttccttcttc 25680
tgtactatct tctctcctga tttgttctgt gcaaaatgtg caaacagtgc gactttgtat 25740
gtctgcttaa caattttctt ttcttcctga aaaagcaata tgaactctta cattcatttt 25800
gcttcttgca gacccatttg cttaatatga gtagaaaatt gaacccgaaa cgctccttgc 25860
tttcttttgt tggtgtcatt atcaatacta ttgagttatt atcaggtatt tttcttaata 25920
atacaatgtg ttcgctaaca caataaaatg tttaaacat ccagtatgtt aaagttgcag 25980
tctgacgcct attttgtttt gctgcagctc tttcaatact tcagaattct tctgttgttt 26040
ccagctctac atatccgaaa tcgtctaaag tctctcaaca gagttactct ggtaataaca 26100
aacaccaatt ttgtttgatc agttgatctc gttggctttt ctatgcactg tctcaatata 26160
gtttggtcgc cattcaagtc tcactacaga tgttgaactt ggcctgacac caaatattta 26220
taaaatgcta cctgatattt ttaatatttc atgtttcctg acccagatta tcttgttggt 26280
tcctcgtata agtttaatta gtgacattct tgaagctttg ttatgcagca gatgtcatgg 26340
ggggaacttc atttaatgat ggaaagagca agaactcgaa aaaaaaaaac ttttgtcgaa 26400
ccagcacgt cattgttgct tatcttcaaa atcagaagtt tctcatatta ctatatcttc 26460
```

17

```
tggtagtgat gctggtctgt cacagaaggc attcaattgt tctccattta tatcaagcaa 26520
tggggcatca agtggttcat taggcgagag gcacagcaat ggtagtggtt tgaagttgaa 26580
tataaaaaag gatcgtggca atgcaaatcc aattagaggc tcaactggat ggatttcaat 26640
aagagcgcac agttctgatg ggaactccag agaaatggca aaaagactcc gtctatctta 26700
aaatgtaatc accgacagtg gtggtggtga tgaccctttt gcatttgacc gccgcgtcgg 26760
cgtcgccacc acgtaatcgc ccacgtcgct gcccccgctg ccacgtcgtc gaccgcgcac 26820
ggtaatcaca cgcatctcga ggccgccgct agctgatatc ttctcatccg gttgatttgt 26880
gattttggcg ttttgcagt ggtgatggcg gggggcgacc gtggccgagg cgtggagtgc 26940
catccgcatc agggtgtatc ggccgcgctg ctccgccctg gtccgcaggc tttggcggcg 27000
agctggcggc ggagggagac tgtggtgaga tcggatttcg ccgctggtgg tgtcgctacc 27060
atgggggatt cgccgcaggc gctctcaggt ttgcagcctc ctccactctc ttccctttt 27120
tattttttt tctcgcaaaa tgtgttgtga tgttcgtctc gctgggctgg cctcatagcc 27180
attaatgtag tttgctggaa catttacatt tggaacgttg ttggcaattg ctttacaaaa 27240
tgtggaattg tggaggggag aaaaatcatt tgaacctgca gtgacaaaat tgccatctct 27300
aattttaaaa ctgaaggtgt ggaaatcaaa cataatcatt gccagcgcat cattcttgtt 27360
aaccaccatg atatattgtt ggttataaca gttagctcca caccaacctt gaaggtgtca 27420
atagaatgtt tagtataaat tgaggagaac aggcagttgt taagactttc taaagaactt 27480
gtagcagcta atactagcta ttgtgcattt gtgtttcatg gaatttgagc agcaatggat 27540
atttcttact aagatgtatg atgcaaaaca aaaaactatg tctatacagt ttacatgtaa 27600
tgtgcggatg caaataaaat catgtacatg gacaaactca tgggattcat accgaattcc 27660
agaattgcat ttcttatgtg gttactttg ttgttgattt ggttaccaga catcgatgtg 27720
atttcaaggg tcagagggt ttgcttctac gcggtggctg cagttgcagc aatctttttg 27780
tttgtcgcca tggttgtggt tcatccactt gtgctcctat ttgaccgata ccggaggaga 27840
gttcaggaaa aaaatttgaa aatacccatt tttgaaaaa gatttacgtt tatatacact 27900
agtatgaaga atttgcgaaa atataactaa tccgcagatc ggttatgcgg gagcgcaaca 27960
aaagtatggc gtggcggcgc ggagtggacg gccgaggcgt tcgcgcggaa tggggctgcg 28020
ggaccgagcc agtctcgctt gccggtaacg cggaaccggt acgctcccgc agcgccagtg 28080
tgcggaaccg cggcgccaac atttttttac tgcatggcac tgtgtttaat actgtttgac 28140
actgtttctg gtactgtttt acacagttcc cgggtcagtt ccgcacaatg gaggcgcggc 28200
accgaccatg aacaatgtgt gaacagtgct gcacagggtt aaaacagtgt ataaactgcg 28260
ctgcacagtg ctggagtcgc tggccactgc ggttccgcgt tttggaaccg cgggaccgtc 28320
gcgattccgc gttttggagc tgccggacca tgacggttcc gcgcaggatc gtcggtcccg 28380
tattttgaat ctgcggaacc gtcgctgtcc cgcgtttcca tttcgcggga tgcgtatatt 28440
tttataaaac ctctccatgc atgtatataa acataaatta ttgaaaaaat aagtatattt 28500
gcaaattttt ttcgagagct cagcactaca ttgcaaagat ttgggcaact ctgacaattt 28560
ccatgttcta caagcttgac gtcgagggaa tggagaacct gccaccgaat agtagccctg 28620
ctatctatgt tgcgaaccat cagagttttt tggatatcta tacccttcta actctaggaa 28680
ggtgtttcaa gtttataagc aagacaagta tatttatgtt ccgaattatt tgatgggcaa 28740
tgtatctctt aggagtaatt cctttgcggc gtatggacag caggagccag ctggtatggc 28800
tgtagtctca tccctgcttt cttaagtaga catatatgca attacagaat ttggtaaaca 28860
aacaagattt tatgaatcat atatgatttt ggggaaaaca ccaaactctc tttggtggct 28920
gccttgaaca tagttctatt cacacagtta tagcaccttc tttaaaatga agaactttgt 28980
tgcatacaca tatggccaaa ccacataatg aattttgttt atttctatct ttgaatgtta 29040
gcaccttatt ttcatgcata tcatgctaat ttgcttgccc acgttgagtg ggaatttttt 29100
tccatgtttt ataatttata tatgttctag acttctagtc cacaatttat ctacttcatg 29160
ttcctgagcc tctagtatgg ctggtagcag actaggtgct gagtgctgtc cattttgca 29220
gactgaagag aggagaaata caggactgtc cgttgttagt cagatttgta aaaatagact 29280
ctgatgtagt ttattttagc ccctatttta tatttaacaa tacaaatata taacgtatcc 29340
taagaactta tcgtaattta ggagaagttg ctcgtttcat taaattaaac tgtgaagtaa 29400
aaatgtgtgc tcgagtctgt caatgcaatc ctgtgttctt gtttgaagat atggtgtagg 29460
gcaggctagg atcgaacact gaatggtaag actgcttctg ccttcatttg tgcacttggt 29520
gctgccacgc cgattaagca gtagaacaaa gtaattttgt cgtgcacaaa tgagttatat 29580
ttcattgaaa atcgaagtga aaatgaacca aaagatagaa gaaaagggga aacttggtaa 29640
ttatatactc cacaaattta ttggtaagat ttgatattag acgctcgatt acttggctta 29700
agttaaggat atcaaatttg gggaagcacc aaaggaatta ttgtgaagga gttgtgggtg 29760
cataacgtta tctactagtt caaatcctag tgactatgaa tattaatgag taaggtaagg 29820
gatttattgt taatttagt ttctttaaga ttgtgtccga gtacaccatt cggtaagtgt 29880
```

18

```
aataatgttt tgtattggat tcacttgtgt tacgtgcatg tgcttttacc ttttcatttg 29940
tttctgcgtt ctgggtatga atttgacgag attccatggt cagctcaaca tatcagttac 30000
tgcgtgtcaa gcgatcttat atggtatgcg cacaagcgat tgtatacgga tatgacagta 30060
taatgtgtga tattgatacg atgttccttt cctttataaa ggaacaaaga cttttttttaa 30120
aaaaagaagg ggtattacta aaaaccaaaa tgtcaaaaac aaaatatcag tgcacatggc 30180
aagtgtgcac gagcaatagc ttgcccttac gttcattatt tagcatgtac tactactaac 30240
tacgcaaaaa tcaattcacc gattattaaa ctgttaacat cattttagca cgttaacata 30300
tgtttcattc aacacaccgg ttttggcaca tttacaaact tgcaaagttg caatactccc 30360
ttcgttacat agcataagag attttaggtg aatgtgacac atctatccaa attcattata 30420
ctagaatgta tcaccgcctc cacgccggga gggagagcgc cgccggtgga gaaaggggga 30480
gggagtggtc gagggggaacc agtagggtgc cctccccgtc gccgcctccc cgtggccgcg 30540
ccggcgagac aggaggaaga gggggagatg gagcggcgcc gccggtgagg cgcgcgtgc 30600
gcggggggggg ggggggggga gcggcgacgc cggtgaggaa gggaagggga gtggtggctt 30660
tgagagagat aggggagagg gaaaatgatt ttagagttag ggtttgggct gctgagtttt 30720
tatatagatc gggatcaatc aggaccgtcc atcagatcgg acaactacgg tttctcccgc 30780
gttgggccgg gtgccactcc taggttgccc acactattgg gccacatgta cgctccgcgt 30840
gaaataagtt cactttaggt cctttaagtt gcctctgaat tgttcccagg ccggccgcac 30900
tattgggcca ccccataggc catgtgtacg ctccgcacag aataatttcg ctttagctcc 30960
cttaatttgt cccctcaaac ttctaaaacc agtgcaaatc tttaatttt agttcaccca 31020
ttgcaactca cgggcatatt tgctagtgac atataatatg aaacgaagga tgtagcagac 31080
tatagaattt aaactgtgct ttcattttag agcatcacta actgttattt agattttat 31140
ttaaataaat gcagaaatga tgttttttat atgaaaatta gcaataaagc tcccaaaatt 31200
tcaaaaaaaa attaaaagag atttattaat catggttaat ttaattaaaa attaaatcta 31260
accatatcat attatttcac ggtccgtgat gaggaaatgg cagctgctat cacttatggt 31320
gggagagaag gggcattgtt tattttttata actatctctt ataactccca tgaaactata 31380
aaataaatat aatcattatc ataacattag ttttttttcca ttgcaacgca agggtaattt 31440
ttcagtacaa taaaaaaata aaagtgggcc attctgaacg gaaatttctg gttttttttc 31500
ccaagagcgc cgcacacaac tgcgcaagag atcgatcgcg atcaccctgc tcgtcgccga 31560
tctcctacac catccctgcc atctccttcc cctccactgg ctgctgctgc acctgtcagc 31620
tagggcgggc atggcgcgcc gcgccgcttc ccgcgctgct ggcgcccttc gctcggaggg 31680
ctcgatccaa gggcgagggg gccgcgcggg gggcagtggc ggtggcgcgg aggacgcacg 31740
ccacgtgttc gacgaattgc tccgtcgtgg cataccagat gtcttctcct acaatattct 31800
tctcaacggg ctgtgtgatg agaacagaag ccaagaagct ctcgagctac tgcacataat 31860
ggctgatgat ggaggtgact gcccacctga tgtggtgtcg tacagcaccg tcatcaatgg 31920
cttcttcaag gagggggatc tggacaaaac ttacagtaca tacaatgaaa tgcttgacca 31980
gaggatttcg ccaaatgttg tgacctacaa ctctattatt gctgcgctat gcaaggctca 32040
aactgtggac aaggccatgg aggtacttac caccatggtt aagagtggtg tcatgcctga 32100
ttgcatgaca tataatagta ttgtgcatgg gttttgctct tcagggcagc cgaaagaggc 32160
tattgtattt ctcaaaaaga tgcgcagtga tggtgtcgaa ccagatgttg ttacttataa 32220
ctcgctcatg gattatcttt gcaagaacgg aagatgcacg gaagcaagaa agattttttga 32280
ttctatgacc aagaggggcc taaagcctga aattactacc tatggtaccc tgcttcaggg 32340
gtatgctacc aaaggagccc ttgttgagat gcatggtctc ttggatttga tggtacgaaa 32400
cggtatccac cctaatcatt atgtttttcag cattctagta tgtgcatacg ctaaacaaga 32460
gaaagtagaa gaggcaatgc ttgtgttcag caaaatgagg cagcaaggat tgaatccgaa 32520
tgcagtgacg tatggagcag ttataggcat actttgcaag tcaggcagag tagaagatgc 32580
tatgctttat tttgagcaga tgatcgatga aggactaagc cctggcaaca ttgtttataa 32640
ctccctaatt catggtttgt gcacctgtaa caaatgggag agagctgaag agttaattct 32700
tgaaatgttg gatcgaggca tctgtctgaa cactattttc tttaattcaa taattgacag 32760
tcattgcaaa gaagggaggg ttatagaatc tgaaaaactc tttgacctga tggtacgtat 32820
tggtgtgaag cccgatatca ttacgtacag tactctcatc gatggatatt gcttggcagg 32880
taagatggat gaagcaacga agttacttgc cagcatggtc tcagttggaa tgaaacctga 32940
ttgtgttaca tatagtactt tgattaatgg ctactgtaaa attagcagga tgaaagatgc 33000
gttagttctt tttagggaga tggagagcag tggtgttagt cctgatatta ttacgtataa 33060
tataattctg caaggtttat ttcaaaccag aagaactgct gctgcaaaag aactctatgt 33120
cgggattacc aaaagtggaa ggcagcttga acttagcaca tacaacataa tccttcatgg 33180
actttgcaaa aacaaactca ctgatgatgc acttcggatg tttcagaacc tatgtttgat 33240
ggatttgaag cttgaggcta ggactttcaa cattatgatt gatgcattgc ttaaagttgg 33300
```

19

```
cagaaatgat gaagccaagg atttgtttgt tgctttctcg tctaacggtt tagtgccgaa 33360
ttattggacg tacaggttga tggctgaaaa tattatagga caggggttgc tagaagaatt 33420
ggatcaactc tttcttttcaa tggaggacaa tggctgtact gttgactctg gcatgctaaa 33480
tttcattgtt agggaactgt tgcagagagg tgagataacc agggctggca cttacctttc 33540
catgattgat gagaagcact tttccctcga agcatccact gcttccttgt ttatagatct 33600
tttgtctggg ggaaaatatc aagaatatca tagatttctc cctgaaaaat acaagtcctt 33660
tatagaatct ttgagctgct gaagcatttt gcagctttga aattctgtgt tggaattctt 33720
ttctcctaca gtccgattag aggagggatc ttctctgtat gtgtaaatag cgaggtatgt 33780
atgtcacctc tccgaattat tttgactgtg gttcctggac tgtaaacaag ctattatctt 33840
ctggtgttga tgccagaaaa aacacaaaag tttgtcgtta tctctactaa cggatcataa 33900
aggggtttgt aactggagtt tcaaacttaa ggtatctagg cagtaggtat atattgatcc 33960
tacatcttat gatcttaaga tgatatcctt ctcattatcc tctgctgaaa ctttagcttg 34020
aaccgtcatc tacaccacaa tttgagcccc ttagcacaga gcacaacgag caatagcttg 34080
cccttacgtt cattatttag catgcactac tactaactac ccaataatca atacatcggt 34140
tattaaactg tttgtacagt ttaataatgt cattttatca cgttaacata tgtttcattc 34200
aacaccacac cggttttggc acagttgcaa acttgcaata acatttttac tacttctccg 34260
ccccataata taacaatctc gttccatact atattgctat attacaggat ggatgaagta 34320
cttctttttct tccaaaatat aagaatctag tactagatta gatattattt ggattcacga 34380
atttgattag gctgtctaga tttgtagtcg tatgtaatgt ctaattcggt aataggttat 34440
tacctctttg gatggaggga gtagttttta tttcgtactc cctccgtttc atattataag 34500
ttgtttttgac ttttttctta gtcaaatttt attgagtttg attaaattta tagaaaaaaa 34560
ttagcaacat ttaagcacca cattagtttc attaaatgta gcatggaata tatttttata 34620
atatgtttgt tttttattaa aatgctacta tattttttcta taaatgtagt caaatttaaa 34680
gaagtttgat tatgaaaaaa tcaaaatgac atataatatg aaactgagga tgtagcagac 34740
tatagcaaat ttaaactatg ctttttatttt agagcatcac caaaagatta gcaataattt 34800
atccctaaaa ttcaagtttt gggtttctta aactgaaaat aggaagtgaa aaatctttc 34860
cgtccaagag atagcctaaa tcttatctta actaattaaa atattcataa ttttccttc 34920
gtcacattaa attttcgtcc gtaaatctga ttgaaatcca attggacaat ccaaaaaata 34980
gagaaaaaga acagaaaaaa taataaaaag cacacaaatc ttatctcaat cccgcgggaa 35040
gctgccgacg ccgccgaatc cgctcgagcg ccgccgccgc cgctcacggg gaacgatgtc 35100
gctgctgtcg cacgcggtat gggagggcgc cgctgccact gcttgggaga taggatatgg 35160
agagagaagg aaatgtgagg gttagggtta ggttttttccc cgtccgtatc ttcagcgaca 35220
cggaggcgat ccaagctgtc catcagatcg gacggctcag aatgcctcca tcgtcgggcc 35280
gcgcatgctt gatgggccga gggaaggccg gagggtcgaa caaacgcaat caaaggagga 35340
gttggaggag gtaaattaga atttatttgc gggctgagat agtaaatgga ctgaaaatgg 35400
cccatagaga aattgggaat tttatttaaa taaatgttga aaaggtgttt atattatcaa 35460
aattaaaaat taagctccga aaattctaaa aaatattcaa agagcattat taatcatggt 35520
taatttaata aaaattaaat ccaaccatat catattattt cacggcgcgc ggtaggaaaa 35580
tgcgcagctg ttgtcgttta cggtgggaga gaagggacat tgtttatttc cagaactatc 35640
ttttataact cccatggaac tttaaaataa atataatcat tattatagca ttagtttttt 35700
tctgtctttt ttttccccaa gagcgccgcg cagaagagat cgatcgcgat ctccctgccc 35760
cgacgtcgcc ggccgatctc tcattctctc cacgccctgc tcgtcgccga tctcctacac 35820
catccctgcc atctcctcct tcccctcccc tctatcctcc actggtgccg cccacctctc 35880
cgtataagac aaactgcgtt gcggcgttgg tttccgccgg cgctgctgct gcacctgtca 35940
gctagggcag gcatggcgcg ccgcgccgct tcccgcgctg ttggcgccct tcgctcggac 36000
ggctcgatcc aagggcgagg aggccgcgcg ggggcagtg gcgccgagga cgcacgccac 36060
gtgttcgagg aattgctccg gcgtggcagg ggcgcctcga tctacggctt gaaccgcgcc 36120
ctcgccgacg tcgcgcgtca cagccccgcg ccgccgtgt cccgctacaa ccgcatggcc 36180
cgagccggcg ccggcaaggt aactcccacc gtgcacacct atggcattct catcggttgc 36240
tgctgccgcg cgggccgctt ggacctcggt ttcgcggcct tgggcaatgt cgtcaagaag 36300
ggatttagag tggaagccat caccttcact cctctgctca agggcctctg tgccgacaag 36360
aggacgagcg acgcaatgga catagtgctc cgcagaatga ccgagctcag ctgcatgcca 36420
gatgtttttct cctgcaccat tcttctcaag ggtctgtgtg atgagaacag aagccaagaa 36480
gctctcgagc tgctgcacat gatggctgat gatcgaggag gaggtagcgc acctgatgtg 36540
gtgtcgtata ccactgtcat caatggcttc ttcaaagagg gggattcaga caaagcttac 36600
agtacatacc atgaaatgct tgatcggagg atttcaccag atgttgtgac ttacagctct 36660
attattgctg cgttatgcaa gggtcaagct atggacaaag ccatggaggt acttaccacg 36720
```

20

```
atggttaaga atggtgtcat gcctaattgc atgacatata atagtattct gcatggatat 36780
tgctcttcag agcagccgaa agaggctatt ggatttctca aaaagatgcg cagtgatggt 36840
gtcgaaccag atgttgttac ttataactcg ctcatggatt atctttgcaa gaacggaaga 36900
tccaccgaag ctagaaagat ttttgattct atgaccaaga ggggcctaga gcctgatatt 36960
gctacctatt gtaccctgct tcaggggtat gctaccaaag gagcccttgt tgagatgcat 37020
gctctcttgg atttgatggt acgaaacggc atccaccctg atcatcatgt attcaacatt 37080
ctaatatgtg catacgctaa acaagagaaa gtagatgagg caatgcttgt attcagcaaa 37140
atgaggcagc atggattgaa tccgaatgta gtgacgtatg gagcagttat aggcatactt 37200
tgcaagtcag gcagtgtaga cgatgctatg ctttattttg agcagatgat cgatgaagga 37260
ctaacccta acattattgt gtatacctcc ctaattcata gtctctgtat ctttgacaaa 37320
tgggacaagg ctgaagagtt aattcttgaa atgttggatc gaggcatctg tctgaacact 37380
attttcttta attcaataat tcacagtcat tgcaaagaag ggagggttat agaatctgaa 37440
aaactctttg acctgatggt acgtattggt gtgaagccca atgtcattac gtacagtact 37500
ctcatcgatg gatattgctt ggcaggtaag atggatgaag caacgaagtt actctccagc 37560
atgttctcag ttggaatgaa acctgattgt gttacatata atactttgat taatggctac 37620
tgtagagtta gcaggatgga tgacgcatta gctctttca aagagatggt gagcagtggt 37680
gttagtccta atattattac gtataacata attctgcaag gtttatttca taccagaaga 37740
actgctgctg caaaagaact ctatgtcggg attaccaaaa gtggaacgca gcttgaactt 37800
agcacataca acataatcct tcatgggctt tgcaaaaaca atctcactga cgaggcactt 37860
cgaatgtttc agaacctatg tttgacggat ttacagctgg agactaggac ttttaacatt 37920
atgattggtg cattgcttaa agttggcaga aatgatgaag ccaaggattt gtttgcagct 37980
ctctcggcta acggtttagt gccagatgtt aggacctaca gtttaatggc agaaaatctt 38040
atagagcagg ggttgctaga agaattggat gatctatttc tttcaatgga ggagaatggc 38100
tgtactgcca actcccgcat gctaaattcc attgttagga aactgttaca gaggggtgat 38160
ataaccaggg ctggcactta ccttttccatg attgatgaga agcactttc cctcgaagca 38220
tccactgctt ccttgttata gatctttgt ctgggggaaa atatcaagaa tatcatagat 38280
ttctccctga aaaatacaag tcctttatag aatctttgag ctgctgaagc attttgcagc 38340
tttgaaattc tgtgttggaa ttcttttctc ctacagtccg attagaggag ggatcttctc 38400
tgtatgtgta aatagcgagg. tatgtatgtc acctctccga attattttga ctgtggttcc 38460
tggactgtaa acaagctatt atcttctggt gttgatgcca gaaaaaacac aaaagtttgt 38520
cgttatctct actaacggat cataaagggg tttgtaactg gagtttcaaa cttaaggtat 38580
ctaggcagta gttttgacat tagatccaac attgtgtagt attcatttgt gtgtatcaat 38640
ctatagggtt tcattaaatt tcatttgtgt actgtttagg tgttgaatat attgttttac 38700
ttgttttta actgaacaaa agatagctga agctttgttc tttaccaaat gcagtagtga 38760
tcatcacaat atatttttt acggaacagg agattgtata aaatggtttc catcggcggc 38820
caacggcgac cgctctgctc tgacccacca cccaatccat ccatccactc gccgccgccc 38880
ctgatccaag cctccgccgc gcgacagcga cgcaccgccg tcgagaggag gaggcgtgag 38940
ccccatgggg accctcctcc ggccgcgtaa tgccgctgca cggtaaccac gcgcctctcg 39000
aggcctccgc cgctagctga tctcttctca tcctgtttgg gtttgggttt gtgatttggg 39060
tgttttttcc gcagcggtgg tggtggtggt ggttgcggcg ggaggggcg gtggccgcgg 39120
ccgtggcgtg gagtgccagc tgcatcgggt gcaccgccgc cggggtccgc aggttgtggt 39180
ggcgacggcg agctgaggag gcggagggag actggtgagg gacacaggca ggcaggctct 39240
caaggctaag cttgttacag gtactgagac tagttactaa ttactttgat aatcagtata 39300
aataagcttg tgtagtgtaa tggcattgtg catttctgca cttgtaaatt ttacagaaga 39360
tggtcattca atttgaacct gcatctaata ttttagtggt ttgagtttat tctcccagtc 39420
acagagttga agaggcaagt aacctgtaag agaggactga acattaacac ctcttgttcg 39480
attaaaaatg accaaagagc atcaaacatg tattcgaggc tgttacttta atatggccca 39540
ttaatttgtt tagttggcta tgtacatcct agttggtgca gtgttgtgga aaacgaata 39600
cgggtgtcgg atggacgagg tgccgtcaag cgattaatcg taatacggat gattaaacgg 39660
aattatatgg attttttggcg ttcgcactaa gatgtacata attgatgtta atggcaatgg 39720
tggagacaaa atgcatcatc ttaataaaaa atatttgtat aaatctctaa ctatattatg 39780
aaaatgccat ttattagttc aatagatatc aacactgatg gttagtagcg caatagcatt 39840
gggcttgtta gtcaaaatag tgcagctggg ctgcaagttg caagtttatg ttagtttcat 39900
aaacagacat ctgatttgtc gataaataac cgactaatcg tgccatacaa ctgtataatt 39960
actctgaaat agtaatgttg ctccgacttg atgatacggt acggtctggc taccgtttcc 40020
gttttgacag acgattaaac ggctgtgccg gtcgacttcc acaacactga gttggtgtaa 40080
atgccagtta ccatttctat gatctaaaat aatcaactct tttagtatat tttcaaaaac 40140
```

21

```
gaaaattcag tacacatgca tgaatcttaa tcttcatatc tagctcgtta caaaatcaac 40200
aaaggcaccg tgtcagctgg tgcacattag ctagttcgta cttagcatta tccactagca 40260
ccttattttc atgcatatca tgctaatttg cttgcccacg ttgagtggga atttttttcc 40320
atgtttatata atttatatat gttctagact tctacttcat gttcctgagc ctctagtatg 40380
gctggtagca gactaggtgc tgaatgctgt cctttttttgc agactgaaga gaggagaaat 40440
acaagactgt ccgttgttag tcagatttgt aaaaatagac actgatgtag tttatttttg 40500
cccctatttt atatttaaca atacaaatat ataacgtatc ctaagaattt atcgtaattt 40560
aggagaagtt gctcgtttca ttaaattaaa ttgggaagta aaaatgtgtg ctcgagtatg 40620
tcaatgcaat cctgtgttct tgtttgaaga tatggtgtag ggcaggccag gattgaacac 40680
tgaatggtaa gactgcttct gctttcagac gttattgcta aatttttagc tagttgcaat 40740
tagtgctgtc acgccgatta agcagtagaa caaagtaatt ttgtcgtgac aaatgagtta 40800
tatttctttg aaaatcgaag cgaaaacgaa ccaaaagata gaagaaaagg gaaacttggt 40860
aattactcca caaagagaac aaatttattg gtaagatttg atatgagatg ctcgattact 40920
tggcttaagt taacaatatc aaatttgggg aagcaccaaa agaattattg tgacttaagt 40980
taaagatatc aaatttgggg aagcaccaaa ggaattattg tgatggagtt gtgggtgcat 41040
aacgttattt gctttgttca aatcctagtg actatgaata tgaatattaa tgcgtaaggt 41100
aaggaattta ttgttaattt taggttcttt acgattgtgt ccggggacgc cattcggtaa 41160
ctgtaataat gttttgtatt ggattcactt gtgttacatg cacgcactaa acatgtgctt 41220
tacctttttca tttgtttgtg cgttctgcgt ttgaatttga cgagattcca tggtcagctc 41280
aacatgtcag ttactgcgtg tcaagcagtt actgcgtgtc aagcgatctt atatggtatg 41340
cgcacaagcg attgtatacg gatatgacag tataacgtgt gatattgatt tttttatata 41400
aaaaaatacg atgttacttt ccttcataaa ggaacaaaga cttttttttt aaaaaaaaga 41460
aggggtatta ctaaaaacaa aaatgtcaaa aacaaaatat cagtgcacat ggcaagtgtg 41520
ctcggcaatt ttttgtctgt actttaaaca aaaatatttc tatatggtat tttttacaag 41580
ggtgtcacaa atattttaaa ttagccaaac atctgcattt tattaaaaac tgtataaatt 41640
ataatttata ctctaaaagg ttgtgtacat ctctcttgga gaaaatgtat aagttgcgaa 41700
caaacattaa tccacgttat ataagtcaat ctgttattta accatagaaa gtaagaaacc 41760
tactagcgtg ttaagctaag ctctctttca ttctctttct tcttcctggt tttgcttcaa 41820
tcacttgtca agtgaagggt tcttaactac cattactcct actcaccaaa ttttttttctc 41880
agatctttcg taggtatata ttgatcctac atcttatgat cttaagatga tatccttctc 41940
attatcctct gctgaaactt tagcttgaac cgtcatctac accacaattt gagcccctta 42000
gcacagagca caacgagcaa tagcttgccc ttacgttcat tatttagcat gcactactac 42060
taactaccca ataatcaata catcggttat taaactgttt gtacagttta ataatgtcat 42120
tttatcacgt taacatatgt ttcattcaac accacaccgg ttttggcaca gttgcaaact 42180
tgcaataaca tttttactac ttctccaccc cataaataa caatctcgtt ccatactaga 42240
ttgctatatt acgggacgga tgaagtactt ctttccttcc aaaatataag aatatagtac 42300
tagattagat attatttgga ttcacgaatt tgattaggct atctagattt gtagtcgtac 42360
gtaatgtcta attcggtaat aggttattac ctctttggat ggagggagta gtttttattt 42420
cgtactccct ccgtttcata ttataagttg ttttgacttt tttcttagtc aaattttatt 42480
gagtttgact aaatttatag aaaaaaatta gcaacattta agcaccacat tagtttcatt 42540
aaatgtagca tggaatatat ttttataata tgtttgtttt tttattaaaa tgctactata 42600
ttttctata aatgtagcca aatttaaaga agtttgatta cgaaaaaaaa tcaaaatgac 42660
atataatatg aaactgagga tgtagcagac tatagcaaat ttaaactatg ctttttatttt 42720
agagcatcac caaaagatta gcaataattt atccctaaaa ttcaagtttt gggtttctta 42780
aactgaaaat aggaagtgaa aaatcttttc cgtccaagag atagcctaaa tcttatctta 42840
actaattaaa atattcataa ttttcctttc gtcacattaa attttcgtcc gtaaatccga 42900
ttgaaatcca attggacaat ccaaaaaata gagaaaaga acagaaaaaa taataaaaag 42960
cacacaaatc ttatctcaat cccgcgggaa gctgccgacg ccgccgaatc cgctcgagcg 43020
ccgccgccgc cgccgccgct cacggggaac gatgtcgctg ctgtcgcacg cggtatggga 43080
gggcgccgcc gccgctgctt gggagatagg atatggagag agaaggaaat gtgagggagg 43140
gttaggtttt tccccatccg tatcttcagc gacacggagg cgatccaagc tgtccatcag 43200
atcggacggc tcagaacgcc tccatcgtca ggccgcgcat gcttgatggg ccgagggaag 43260
gccggagggt cgaacaaacg cagtcagagg aggagttgga ggaggtaaag tagaatttat 43320
ttgcgggctg agatagtaaa tggactgaaa atggcccata gagaaattgg gaatttttatt 43380
taaataaatg ttgaaaaggt gtttatatta tcaaaattag aaattaagct ccgaaaattt 43440
taaaaaatat tcaaagagca ttattaatca tgattaattt aataaaaatt aaatccaacc 43500
atatcatatt atttcacggc gcacggtagg aaaatgcgca gctgttgtcg ctgacggtgg 43560
```

22

```
gagagaaggg acattgttta tttccagaac tatcttttat aactcccatg gaactttaaa 43620
ataaatataa tcattattat agcattagtt tttttctgtc ttttttttcc ccaagagcgc 43680
cgcgcagaag agatcgatcg cgatctccct gccccgacgt cgccggccga tctctcattc 43740
tctccacgcc ctgctcgtcg ccgatctcct acaccatccc tgccatctcc tccttcccct 43800
cccctctatc ctccactggt gccgcccacc tctccgtata agacaaactg cgttgcggcg 43860
ttggtttccg ccggcgctgc tgctgcacct gtcagctagg gcgggcatgg cgcgccgcgc 43920
cgcttcccgc gctgttggcg cccttcgctc ggacggctcg atccaagggc gaggaggccg 43980
cgcggggggc agtggcgccg aggacgcacg ccacgtgttc gacgaattgc tccgccgtgg 44040
caggggcgcc tcgatctacg gcttgaaccg cgccctcgcc gacgtcgcgc gtgacagccc 44100
cgcggccgcc gtgtcccgct acaaccgcat ggcccgagcc ggcgccgacg aggtaactcc 44160
cgacttgtgc acctacggca ttctcatcgg ttgctgctgc cgcgcgggcc gcttggacct 44220
cggtttcgcg gccttgggca atgtcattaa gaagggattt agagtggacg ccatcgcctt 44280
cactcctctg ctcaagggcc tctgtgccga caagaggacg agcgacgcaa tggacatagt 44340
gctccgcaga atgaccgagc tcggctgcat accaaatgtc ttctcctaca atattcttct 44400
caaggggctg tgtgatgaga acagaagcca agaagctctc gagctgctgc acatgatggc 44460
tgatgatcga ggaggaggta gcccacctga tgtggtgtcg tataccactg tcatcaatgg 44520
cttcttcaaa gaggggggatt cagacaaagc ttacagtaca taccatgaaa tgctggaccg 44580
ggggatttta cctgatgttg tgacctacaa ctctattatt gctgcgttat gcaaggctca 44640
agctatggac aaagccatgg aggtacttaa caccatggtt aagaatggtg tcatgcctga 44700
ttgcatgaca tataatagta ttctgcatgg atattgctct tcagggcagc cgaaagaggc 44760
tattggattt ctcaaaaaga tgcgcagtga tggtgtcgaa ccagatgttg ttacttatag 44820
cttgctcatg gattatcttt gcaagaacgg aagatgcatg gaagctagaa agattttcga 44880
ttctatgacc aagaggggcc taaagcctga aattactacc tatggtaccc tgcttcaggg 44940
gtatgctacc aaaggagccc ttgttgagat gcatggtctc ttggatttga tggtacgaaa 45000
cggtatccac cctgatcatt atgtttttcag cattctaata tgtgcatacg ctaaacaagg 45060
gaaagtagat caggcaatgc ttgtgttcag caaaatgagg cagcaaggat tgaatccgaa 45120
tgcagtgacg tatggagcag ttataggcat actttgcaag tcaggcagag tagaagatgc 45180
tatgctttat tttgagcaga tgatcgatga aggactaagc cctggcaaca ttgtttataa 45240
ctccctaatt catggtttgt gcacctgtaa caaatgggag agggctgaag agttaattct 45300
tgaaatgttg gatcgaggca tctgtctgaa cactattttc tttaattcaa taattgacag 45360
tcattgcaaa gaagggaggg ttatagaatc tgaaaaactc tttgagctga tggtacgtat 45420
tggtgtgaag cccaatgtca ttacctacaa tactcttatc aatggatatt gcttggcagg 45480
taagatggat gaagcaatga agttactttc tggcatggtc tcagttgggt tgaaacctaa 45540
tactgttact tatagcactt tgattaatgg ctactgcaaa attagtagga tggaagacgc 45600
gttagttctt tttaaggaga tggagagcag tggtgttagt cctgatatta ttacgtataa 45660
cataattctg caaggtttat ttcaaaccag aagaactgct gctgcaaaag aactctatgt 45720
taggattacc gaaagtggaa cgcagattga acttagcaca tacaacataa tccttcatgg 45780
actttgcaaa aacaaactca ctgatgatgc acttcagatg tttcagaacc tatgtttgat 45840
ggatttgaag cttgaggcta ggactttcaa cattatgatt gatgcattgc ttaaagttgg 45900
cagaaatgat gaagccaagg atttgtttgt tgctttctcg tctaacggtt tagtgccgaa 45960
ttattggacg tacaggttga tggctgaaaa tattataggga caggggttgc tagaagaatt 46020
ggatcaactc tttctttcaa tggaggacaa tggctgtact gttgactctg gcatgctaaa 46080
tttcattgtt agggaactgt tgcagagagg tgagataacc agggctggca cttacctttc 46140
catgattgat gagaagcact tttccctcga agcatccact gcttccttgt ttatagatct 46200
tttgtctggg ggaaaatatc aagaatatta taggtttctc cctgaaaaat acaagtcctt 46260
tatagaatct ttgagctgct gaagcatttt gcagctttga aattctgtgt tggaattctt 46320
ttctcctaca gtcctattag aggagggatc ttctctgtat gtgtaaatag cgaggtatgt 46380
atgccacctc tccgaattat ttttactgtg gttcctagac tgtaaacaag caattatgtt 46440
atgctgttga tgccagaaaa aacataaaag tttgtcgtta tctctactaa cggatcataa 46500
agggatttgt gactggagtt tcaaacttaa tgtgtctagg cagtaatttt gacattagat 46560
ccaaaacaat ttatagggtt tcattaaatt tcatctatgt gtactgttta ggtgttgaat 46620
agtttgactt gttttttaac tgaacaaaag atatgtctga agctttgttc tttaccaaat 46680
gcagtactga tcatcacaat atattttta tggaacaaga ttggattgta tagaatggtt 46740
tctgatctga ttatcttatc tcaacgtatt attatgcaca tgtactaatc atgaaatatc 46800
tgatggaatg atgtttctat ttacctgtgt gaggcagcaa ggagtgagat ggataacacc 46860
acatactccc tctgtcccag aatataagaa gttttagagt tggacacgat tattaagaaa 46920
gtaggtagaa gtgagtagtg gagggttgtg attgcatgag tagtggaggt aggtgggaaa 46980
```

23

```
agtgaatggt ggagggttgt gattggttgg gaagagaatg ttggtagaga agttgttata 47040
ttttggggag tacattatta ttctagaaca atactgttgt gctcaagaag cgttccaaag 47100
atgtttcaca acctgtgctc gatgggtttt gagcttaatc ctgggacatt cagtatcatg 47160
atctgtctca ttcttaaaca tggaataaag gatgacagca tgatttcttt gtctctataa 47220
tcttttggct acccacagat aatagctgta aatctatact actttaaaag gagtagtggt 47280
ggtggtgagt ggtgaatctg ccaccacccc accaccaact ctcaaaattc tgacatgtgg 47340
gatcactgtc aatcccttct ccaagacatg tgggatcact gtcaatccct tctccaaacc 47400
aattgtatga tagaacagtg gaaatcacgg acagaccatg gagctctcaa ccataatcat 47460
ccttgcgagt taataacaaa tggagcgtaa acttggcaag caaaaaactc aaattaattc 47520
taaaattaag ctctaggatt caaaatagat ttcctctctg cattgtgctg ttatgatttt 47580
taattccgta acaacgcaaa tgcattttgc tagtcttata aagaagggtt aatgcaaata 47640
ttctgattaa atgattgtat ctatgaagtt tgaatgctag tggaagctcc tttgaccatg 47700
ttttgttgtg cgagcattta agagagtgaa gagaatgctt ctttggtgct gttctggtat 47760
ggaaggatcc acagataaaa ttcaggttct actgcttctc tgcttgtaat tttcatgaag 47820
ctgcagtgaa taccttgttg accacttgat ctgttgcttt gaaggagaat atagtagtgg 47880
ccaaggttgg tgacggtgat ggtggcatgt gatcccccag atcttcagtg acccagagag 47940
gaggggacgg cgcgtggtga gctacaaggc atactcagtg gagggcaaga tcaaggcctc 48000
ccgtccgtag gggactccgc tgcatcaagg ccaactgctc cgaactgatc aatttctggt 48060
acggatcact tctcctttcc ttttttttt caccttaagc actctcttga ttcttcgctg 48120
ctacctccct taatttcttt caatatattg tggcacttga tcatggcgga gacccacctt 48180
ccagtgtgaa tggattttgt caaagaacta aatttattcc attagcttat tttccgatta 48240
catggaagac attcttttct ggaataaata cagaactaaa tcctgtttcc tgaataaaag 48300
ttgttagtgt gtggcatggt gcattccgc gcttctaaat tttataaaac ctgttcattc 48360
aatttgaacc tgcatccaat ccaatatttt aggtgcagac aggtgcttgc ggtcaggtta 48420
aagaagttgg caaaaatgct tctgaagaaa ggttaattgt tgtttcatct caggaggtaa 48480
tatgcagatg attattccaa ttggcattgc cttgccattt ttatcacgag tctttacaat 48540
tttatatcct cctacatatt ctttccagat tccagatgat ccagtgtctc caacaattga 48600
ggcgcttatt ttgctccata gtaaagtaag tacacttgct gagaaccacc agttgacaac 48660
acggcttgtt gtaccatcaa acaaagttgg ttgtattctt ggggaaggtg gaaaggtaat 48720
tactgaaatg agaagacgga ctggggctga aatccgagtc tactcaaaag cagataaacc 48780
taagtacctg tcttttgatg aggagcttgt gcaggtaatt tatttggcca tacctacacc 48840
agagatccat atattacttt tataactgca gttttacctt gttaacattt cattgtgctt 48900
ttacatttgt tccaagcttt caggttgctg ggcttccagc tattgaaaga ggagccctga 48960
cagagattgc ttcgaggctt tgaactagga cactcagaga tggaagttct tccaataatc 49020
cgacacctttt gcccctgtt gatggtcctc ctgttgatat cttgcctaac aaggaattca 49080
tgctatatgg acgatctgct aatagtcccc catatggagg gcctgctaat gatccaccat 49140
atggaagacc tgccattgat ccaccatatg gaagaccaat atccacaata tggaagacct 49200
gccaatgatc caccatatag aagacctgtc aatgatacat catattgagg gttgaacaat 49260
gatgggcctc gtgatcaggc ccggtcctga ggggggtcga atggggcgat cgctccgggc 49320
cccccgattc ccagggcccc cacctatctg tgcaacgagt agtagcgatc ttccagcgcg 49380
caacgtgagg cgatgtttct ccgtgatttc gccggcctgc aactgcgaga tcgcgagtat 49440
aacgatcagc cgatcgatct catctgccga ctgccatgct gatgccacac gcaagcgcag 49500
catatcagcc ttatcttggt tgatcggcat gctggacgag cacatctgtt gtcgcatcaa 49560
ctgctgactg ctatatatgt gctggtgctg aatcgatcga ttgtcgtcac ggaagtgaag 49620
aacaaccacg gcactgctgc ctgctgggct ctagccgcca tcagtaagta cgctatactg 49680
cctatctaga tctagatcga gattacatag tggaattatc tgtttataac aaaattacaa 49740
ggtatcaatt gataatttaa ggttataacc gtacaaactt cagtgatttg ctggtttcac 49800
attggttaga tttgtttcaa ctaatttggt acttctgtag ccttgtaatt tacgaatcta 49860
gtattaatat tttcttaagt attagcctgt tccttgatat tatgctgttg agaaagtatg 49920
caatagataa caaaaacaag taggtgtgtt gaggatgctc aagagtaata caggcacttc 49980
aataattctg atattatcag gacatcatca ataattctgc gcctacaaat cttcaaagaa 50040
aattttaata taatgcgtat gattttttaa atacgaatat tgattgctat ttaaagatat 50100
ttatattata tggtaattat tatttgaagg tttataataa aggcctccgt ttttagtttc 50160
acgctgggcc ttcagaatct caggaccggc cctgctcatg atccttacac cgtgtatcct 50220
gtagagtact tctctaaaag agagtaccct agtggaagta gcaaagttgc accatctgct 50280
tcatacgaaa gatatgcagc aactactcgc ttgcctaata gagaactgcc ctcatctatt 50340
agtcctggtg ccgattatat gtcctgccgt tcttatcttg accaagtacc tactgatagg 50400
```

24

```
tactctaata gggttacact acaattaggc ctcttgagag ccgggaatag taatgtgcaa 50460
caattaggaa tcaccagagc tggaaattcc aatgcttatg attatactga ggtacatttc 50520
caatgcgtta gcttgcctct tctttgcaaa tggccctcgc ctgatatgtt tccattagaa 50580
acatgaaacc atatatttga ctgttgcatt atgtctattt tcttccatga tggttcagac 50640
gtctgaaaaa aggacaaaaa tattctagaa tatgtcatgg tgatccaaat atatccttct 50700
gtcttgtgcc cactctaata tctatcgttg gtaacactat tcaattgtta ccatgttgtt 50760
gcaaaccctа gattcagtta ttcagctgtt ctctgctgct gttgcttacc agttttctta 50820
gttgggtgtt gatctttтct cattttttat ttccttgttt cctggttcac ctgctgcctc 50880
tctgatgcat ctgaatgtat attttтgttc tcttcagtgc ttaatagatt taaatttcat 50940
tcttttcagg ctgcggagct gatccatgga cgtgaggatt accgaagact gtcaggtctc 51000
actgggtatg gcttacgcag actgaatttt tacaggacac aaacatgaat tttgtcctca 51060
taatcattga gtgatgatct ctttgcaggt atccaggtgg ctctgtcgaa ttgtggattc 51120
caaatagtta actggagtct gtcattggtg ttggtggtgt caatctagct gagatccgtc 51180
tggtatagcg taagagaaac atcatgcact atccccagtc ataaccatgc cccaatggcc 51240
accaatagtt ttcctcgtga aaatctcccc ttgatcccag atctctggtg cgagagtgaa 51300
gttgcacgaa gcccatcctg gttcttccga gtccattgtg gagatccagg gcattccgga 51360
tcaagtgaaa gccgcacaga gccttctgca aggcttcatc ggcgcaagca gcaacagcag 51420
gcaggcgccc cagtcctctc gcatggccca ttatttttag taagctggag gacattcgca 51480
acaggggggt cagtggtcac tgcaaagctg agtttgttct tcagttcaac tgcagaaaat 51540
tgcagatcgg ttgccgtagt tgctagaacg gtacatagtt gccacctaac tgtagcgagt 51600
ggcataactt attgtgtgtt actgcccaat gttgtctctc cttgtgttca tggattcaga 51660
cttgtgattg tagtatttct ggatcagact ggagtaaaag aaaaaaaaaa aggaagacat 51720
gggtttaaca gtaagctcaa aacgttgaca gtagtaaaat aaaaggggtt tgttcacttt 51780
atttccaata tcaaccttac caacatttgg cgttgaatca tttataccac atcgcttgtg 51840
cagctgaatt tggggctgtt taaaagatgg tctcttggat tgctaattgc ctcgcggcaa 51900
gcgtggtacc ttgtacaata taaatataat tataactatt taatttcata attaaacatg 51960
ttgttacaaa tctctactat tataaaaatt gaagatgttt tttgccggta ttttggtacg 52020
tcatctgtgt atgaatccgt ttttaagttc gtttgctttt ggaaatacat atctgtattt 52080
gattcagttt ataagatcgt tcacttttgg taatacagaa ggaatcatat aagaattctg 52140
tttaaaaaca ctcgtatagt aacttgagac gatcagacgc ctaactacag ctcatgattt 52200
tctaaatata tatatatata tatatatata tactagaaaa aatatatgtg tgttaaaagc 52260
tatcttaatc ttattattgt tatatatttt agttaacaag aaatctattg tgggaacttg 52320
tttggatata tattttttta aaaaaaatca tgagctgcaa ttaggaatcc aatcgtctca 52380
agttagcagg agggcgagtt ttttтaaaga gatttcttat acgatttctt ctatatttct 52440
aaaagcaaac gaacttaaaa accgactcaa acatggatct gtatttccaa aaacgaataa 52500
acttaaaaac cgactcatgc acagatgatt aatttttata atagtagaga taaacgaact 52560
cccacagtga attttatttt aactgaacca tataacaata ataagattaa aatagacttc 52620
acccgttgca atgcacgggc attttttcta gttaagaag aaataaaaaa acacaaaat 52680
ttataaaatg taaaaaagaa aaatattata attttgttag aattattatt ataatataga 52740
aaaatagttg ccaaaatttc tcaacgaatg tcgaataaac tcagcaatgt catatattta 52800
aatatgatgg taatatttgt tcgcaaaact ttaatcttca atccttcaac aacatagata 52860
tacaacgtcg taatcgccaa caagcccgag tgaccataca ggatagccga gcggtggatc 52920
tgtactgttc ttgggtgaaa taaatctagt acattgtata tcttatctta atatctacta 52980
ttataaaaat tgaagatatt tcttcaaaga tttccatacg ttctctactc cgttacaata 53040
tcggttctac tccgttacaa tatcggtttt gtacaccccg cgcacgcgtt gtgtgttctc 53100
ccgttccaat acatgaagct agagtcttgc ttctccctgg tctggcaggc ccttttttcca 53160
ccatccccac cagggccagc gggttacatt gaccgatcac ggcccacatt agtggatgca 53220
gccagccacg ctcttcacaa atcatgtgat gaacattagc tgagttaaaa tttatccttt 53280
gatgattgtt agaaatgttt ttttctccac atcttctctt tcaattttgg aaaaatagat 53340
ttcttgattt ttgtgctcgt acatcactaa taaatcagtt gttacccttc cacacattgt 53400
caatttacca tgtctatttc agctcttacc ttgtatagtc ttgactcttg agtcctcgct 53460
attgactaag ttgctacatg cctcctacaa atcaatagac tgccataaca atattttcta 53520
cgacatgatc catattagtc catgcaatgc aagtacacac acactactgc acgaaaaaac 53580
tatgcaccat aacttcaaaa ctaacatgtt agaatgacgt taatttttca ttacaattat 53640
attcatcgac cgttaattta ctaggcatcc tgtttaaaaa aaatattcac cgaccatacc 53700
cacatgttcc gtagttcatt aggtgatgga tcggtagtta cagcagctgg atttttatat 53760
tttggtcatt ttgaaaaatt tatttcgcaa atagactcct gaaaaaactt atcccagaaa 53820
```

25

```
tagtcccttt tggagcgtca gagtggctgg cgccgtggtc caacgggaca gcgccaacct 53880
ctctggcgcc gcccccgcc tctattcttg tttctctata tagagttgca aactttttat 53940
ttttgtttta ttttttggga tgttttttca ctcttagaat cacgatacaa ccaactacaa 54000
aaaaaattaa actcgaacgg aatatatcac ttagctagaa gtctgaaaat atagcatacc 54060
acttatctac tttgcacctt caccaaaatt agaccataac ttcttttagta aaatcctttg 54120
atcagcatat taaacataat gcactctatc actaggtgaa attacttaat ctaattcaaa 54180
atataactac atgtagcctt gaaaaattct acatgccaca tatttcgtcc gtttgagttt 54240
attattttta tggttcgttc atgtgagttc ccaagtgtga aaaaaaaata aaataaaaat 54300
aaaaaagttg cacatcctct cctctgcatt agagaggaga ggagaggaaa aattctacag 54360
gtcacatatt tcgtccattt gagttcattt tttctatggt tggttcttgt gtgttcctaa 54420
gcgtgaaaaa aatatcaaaa aaataataat aaataaaaaa attcgggggg ggggggcgcc 54480
agccactctt aggggtgaaa acgatcggat aatatccgat ccaatctgct ccgaatccat 54540
ccgaaataag gatatggtat gggttttttag aaatctggcg gatatggatg cggatgagga 54600
tatggtatct ccgaaatacg acggattatc cgacattttt gtcggattat ccgataggcc 54660
ctttaccgga taatccgaaa ttatgaacac atgtaaccac tctatctatt gcatataaca 54720
taagttggtc catccaatga cctaattcat caattaccct agatttctta ctatgtggtt 54780
ttcaccattt catgtcacac ttgcgtagct gtattttttat aaaatggaca tcatgtattt 54840
atgttgttta gcacttaagc acataattat tacaatgggt cgtttattga cattgtgtta 54900
ttttttacttg cattgctaac tcaatgttgt attgattgca tacacacgta acatctgata 54960
aaatttaatc cgtttctgaa ccgattccgc accatttccg acatctgcat ccgtacacta 55020
tccacaccca ctccgaatcc gcttaaaaat atggtttagg atatggtatg accactatcc 55080
gtccgaatcc gctttatttt caccctagc cactctggcg cgcttcccct gccacctcag 55140
catcgtccca ccacgtcggc agaaggacgg cggctccagc cactctggcg ccacaaaaaa 55200
ggaccatttc tagcataagt ttttttaggg gtctatttac gaaataagtt tttaaaagga 55260
ccaaaatgtg aaaaatccag gttacagcag actgtgataa gcaatagcta tattgcctat 55320
atatacacgt atatgcattg ctaatccttc aattttgtcc aattctttta aattgtcttc 55380
acctgttgca acgcatgatt ttttttctag tcttaacctt aactaatctt aataactaac 55440
taaaagattc gtatctttcc gatcgtcacc ttgtccatac gctaattttt cgtccgtccc 55500
ccctccccct caaaaaaaaa gggaaaaatc cattttacac cctcgaactc ttatgcttgt 55560
ctaaaataca cccccgaact ataaaaccgg gtataataca ccctcgagct atcaataccg 55620
gacagttcaa gggtgtatta tacctggttt tgtagtttgg gggtgtattt tagataagca 55680
taagagttca agggcgtaaa tggacttttc cccaaaaaaa atcccagtcg ttactttcca 55740
tcctgagaat cggagacagg gaaaactgaa gcatacacgc aaatagaatc aaagataggg 55800
aaaactaagc atatacacac aaatatatcc aaaaattccc atgcagctag atcgggtgcc 55860
accgttgttg ccaaaccacc acattgcaat gtaaatctaa gactaaagcc taaatcctat 55920
gctaagtcat caaattagac tcggttctac caatttggta atatatcaaa ttagacttga 55980
tttttactga tttgaggttc tcgaggtgtc acactatgaa acggaagttt ttcccgttgc 56040
aacgcacggg cactatgcaa tatcttaact aattaaaaga ttcatatttt tcctttcgtc 56100
acaccgatct ttcgtccgtc tgtaacatca cgtgcacctc ctctccaaat cccacatcat 56160
cataatccga cccaaaaaca aaatctcaat ctcaatccaa tcagaatcat cacaaaatca 56220
tccaaaatat caagagatga ttataggaga tggaggggtg agcaggagca acatcatcat 56280
cgcataaaaa ccccaaaatc aatcacaaca acgacatcat tatcacataa gaaaaacaat 56340
acaaacaaca tacacaatca acaacactgg cggatccagc cgagcgggaca acggcgtggc 56400
agcgggcaga tcctctcggt cagatccgcc cacgggtgcc actgacgtcg ccgccgccac 56460
cggatccaag ggagaagctt cggacagagg gagaggggggg tagaggaccg ctaaatccgc 56520
ccaccggaaa tgccgccgcc accacctccg tcggatttgc ccgagggagc gccgatgccg 56580
ccaccgccat cgcgggagaa gcttgggcac ggagggtgag gaggaggggg ggtagagaat 56640
cgccggatcc atccgctgga aaagcctccg ccggatccgc ctgccggaaa caccggtgtc 56700
gccgcctccg ccggattcgg tagcgggagc cgccgatgcc accaccgccg ccggatccgg 56760
tcggtgggag ccactgacac catcgccgcc gcctcctctg ctaccgacaa gggagagacg 56820
agaggggcgg gggcgagggc gggggacgag agggttagag ggagggaccg agtgggagag 56880
agagggacga gtgagaggag ggggacgagt gaataaggat gcgtgacctt atccactcgc 56940
gcggtcgcac cccggctctt tctctcgctc agctgttgcg cttgtggaga ggatgcgaga 57000
ttttttttttg agtaaaatgc acgggcggtc cttaaacttg tagcggtctg tcatctaggt 57060
tcccaaactc tcaaaatgca tatccaggtc ctagaatttg tcaaagtgta tcatctagat 57120
cccaaaccga cacatcctct cttggatcct acatggcgct aatgtgactt gtcacatgga 57180
cgtgacacgt ctttttttttt cttcttttct ttttcttttc cgttttcttc tcattcttct 57240
```

26

```
tttttttccat cttctgctcg ggtcacatag aaaggaaaag aaaggaaaat acaagagaag 57300
aaaaaaagaa aaaagaaaat ttttaaatgg gtctcattcg tcagtcaaaa ttatgccaca 57360
tcatgtccct gcgacatgcc acatcagcac cacgtagcat cctgaagggg ttgtggcgat 57420
ttgggaccta aatgacacac tatgacaagt tctaggactt ggatatgtat tttgagagtt 57480
taaggattta tatgacacac tactataagt ttaaggaccg cccatgccct ttactttttt 57540
tttttacacg gagagaatgc gaatttgttg gttagttgcg gctgagggtt tctcgcacgg 57600
agaaatttgc ggtgggagaa tttttttttcg aggttctttc tattgggaga agacgggatt 57660
ataggggatta ttactggtgt ggtggcccct gtttttctttc tttttcgagc ttctttccgt 57720
taaattcact tttctctctt caaggagcgt aggacatgac tgaatgcagc tgctgtaaat 57780
tagaaataaa aaagaaacat attctgtttt tcatttttttt caataggtaa atataaagat 57840
ttttaagtaa tatttaaaaa tatatagtgc tgatcaacga cattgttaag tgagatttttg 57900
ctgttactat cacttttttt tccattgggc tcacgtacgg cattaaaagt tttagttttg 57960
gttctctcct tttgagtttg ggcatatacc aatattgaga taggtatact aaagttcatt 58020
tggattttat tcgattcaac ttttttgggt tttgttcagt tcttttttac atgtttctca 58080
tctgaaatta ggaaattagg tttggtaaag tcttgaatag ataacgctgt tgacgtttga 58140
acatatatttt atctatttat ttatttaaaa atatatgaat aatttttatt ttgttatgac 58200
ttttgtcggt gacatgggac cgggagtatc atgactagag gcttgggcag gagcgatcac 58260
ccacgtggcc tgatgtaaca tcctgaaaat tcccaacaat aaaaatcact aaaattttga 58320
acttttaaaa acttttgcat catgctggtt gttatgattg ctattgcttg ccaaaccgta 58380
aatgatcaca aagaaagtaa agtaaggatc taaaatttaa gtaatagata aatttacgag 58440
aatataatat ttaattgcta accctacaaa taattacgca caagaaaaca aagccagaca 58500
aacggaaggt taattactaa tttaaattat ggattaatta ttaaatactt gaaccatgtg 58560
ttgcgtgcca tggcatctaa atacacatga aataatggtc atataattaa attaagcttt 58620
ataaaattat gtgaggtttt aattaagcaa ttagcttaat gttgtaccga gtcttaatat 58680
actatttata gaataaataa attcaaccta tccgtgtaaa atatattgct ataagttcat 58740
tcaatgtact attgtaataa taatggccac attaggatat tttaattaat tttggaaccc 58800
tcaaagcctc caaaattatc taggttaatt ttgaaattat acctcattta agtaatgcaa 58860
tagaaaaata tacataaaaa taaaatatgg gtaatattag aaattgagta aatttttcatc 58920
taaattaaaa catatattgg gtaaacctcc tttatgtaaa aattaagatt tatagaatga 58980
aatttgtaca agggataaac taaaatcggg ttaaatagaa aatggcactg ttcattgcac 59040
tctaggtgct cgacgtggtc cctggcccta tttttcccct cagccgcgcg cgcctggctg 59100
cctcgcgccc cgcgccacgc cacccgcgtc gcgtcgccgc tgccgcgccg tcgccgtcgg 59160
ccgttccgcg ccgctcgtcc gtcgctccgc cgcctcgcgc cccgcgccgc gtcgtcatcg 59220
cgtcgccgtc gccatcaccg cgcctggccg cccctgaccc cgcgccgcgc cgcgccgtcc 59280
cgtagccgcg tgcgcgttcc atcgccgctg ccgcgccgcg cgccgtcacc gcgcgccgct 59340
cgtccgccgc gcatagcccc gcgccgccgc gccatcgtgt cgccgcgccg tcgcgtcgct 59400
ctcgagcccc gcatccctct cgagccccgc acgtcgcgtc ttgtcgccgt tgctgccgcg 59460
tcgtcgtcgc cgatgctgtc gcgtcgccgc tgccgcccgt cgcgtcgcct tgcgccccgt 59520
gccgccgctg ccgcgttgtc gctgtcacct tcgcgtcccg cctcgtgccg cgcgccaccg 59580
ctgccgcccc gtcatcgccc gctcgtcgcg cgcgccgccg ccgctgccgc gccgtcaccg 59640
tcgtgtcgcc gtcggcctcg cgccttgagc cgccgcgcgc ccgtcccctc gcgcctgcgc 59700
cccgccgcac ggccgtcccc tcgccgtcgc cctgcgccac tgccgcgccg cccgtcccat 59760
cgcgccgagc cccgtgccgc cgcgcgcgtc gcgtcgcccc gcctgtcacg ccgctcgccg 59820
cctcgagcca cacgcgtcgc gccgtcgcgt cgccattagg gccggccacc cctttccccg 59880
cgccctataa aaccccccgg ccacccccct ttcacccccac accatcccca cccattcccc 59940
tcttcctctc ctccttcccc tcttcgtccc ctccaccgcg ccgcgccgcc gccttcgtgc 60000
cgccgcgccg tgcgccgtcg tcgcgccgcc ctcgcgccgc cgcaccgccg ccttcgtgcc 60060
gccgcgccgt gcgccgacgt cgtgccgccg tcgccgtcgc cgtcgtcgtg ccgccgtcgc 60120
cgtcgccgtc gtcggtaagc cgccgtccct tccctcgttc cgacgccgtc gccgcccggg 60180
tgggaaggag ccgagagaga gagggaggaa ggagccggga gtaggaagaa agaaaagaaa 60240
agagagagag agaaaagaaa agagaagaaa agagaaaga gagaaaagaa aagaaaagag 60300
attagagaag ggagggaaga gtgggcccca cctgtcatta gccccatcca attcccctta 60360
gaaaaataat tctgtagaaa agaaaatcaa gatcttgacc ccacctgtca gtcactatag 60420
cgtgtggata aggttgtatt aaaaataaat gaattaggaa cagtactatt tcgcaactat 60480
tagaattaat tcaaatttga atctttacac tagcataact aattcatttt agctccgatt 60540
tgagtggaac ttgaacctaa attcatctaa attcataagc tttccaatgg tatataattt 60600
actattaaat aaaatatatt tataattatt aagtaattaa tatcatatga ttaggttatg 60660
```

27

```
gtcaacttaa aaatatgcta ataaataaaa ttagtattgt ggatgtaata atatttgtct 60720
ctaacatgtc ttgccactgt aacaaccaca caaactaata ttaagtgatg tctgaaatga 60780
atgaatgaat aggaaaatac tagtacttgt ttaatattcg atagccatat aattaaaccc 60840
atggcttata ggttatttaa atcaaatgta gccttgtgat tatgcaacta aaatataaac 60900
acatatagat gaatctttag cttgattagg aggaataata acagagctag tgtgactagt 60960
tatgatatag cttgttgtcg gttgcctata tttagtaaat ggttcaatgt taatacactg 61020
atgcacacac ataccctttt tgataaccta ctagttgcat atattaaact tggtaataaa 61080
tgaagaacca atatattagc taaatactgg tgctagttat aaatcttgac cacacataat 61140
tttagttcaa accacacctg aggattgttc gttataaagt tataaagtta taaagttata 61200
caaaagataa tatgtaacta taatagtatt aaaccacaaa tctaaaatac agggcgcata 61260
attgtcaacc ttttatgcaa acggataata tccatatata tacatcatgt ggataattcg 61320
aataatagct ccattggtaa aataataatg taggcgaatc atggtgatga gatggtttat 61380
cctaaacctc cccatcgaca tagccatgct atagggacct gaccatttta ccttcataac 61440
agatctcttc cataagccaa tagctagact aaaccacaga ttagcaaatg tgtacatcat 61500
atattgtgct agttagtacc aatagaacca tcaggacaat ataaatacta aggaatctta 61560
gctcttagct tgattagaat ccaatagcaa acacgagtag tatgagcagc cttaggttcg 61620
acctcaataa ttatattttg cttgtgcata attgcttctt gttgaatatt ggttttttctc 61680
gcatattata gaaattgtat atcggttagt cgtgaggcaa cgtatgcagc tttcaggagg 61740
tgaaggttga tcaagattgt atcaagaata atgactattc taagcaggca agtcatcact 61800
attccttgaa catgttgatc ctaattgcga aattattttg tttacaaata aaattgcatg 61860
caatgatgaa catcctactt gtgattatgc catgccttga ttattgttta cccttaaaat 61920
ccttgtaacc atgattacgt atgagtccct agtcaattat gacaattgct tagagatgct 61980
attctagaat catgcatact catatttatc aaatgctata tgcttgggca attacctttg 62040
ggaaggtaat tgagatgcgg catgtggaga catgaacgcc acattgccat gatattaatg 62100
acatgatttg tgaaaggaga aataaaatta aacaactgtt ttcgactggg gcggacggag 62160
gatttgggtg gtatctggaa aaggctagta ccgtccccgg tcaattaagg accgagccat 62220
gaagttaagc atgaaacgac ccccgtacaa ccgcacttct cgtatgggta tagacctagc 62280
ggagtagata gctgagcgga ggcagtatcc atgcatagtg gtttcttgat gtgtgaggca 62340
ggggctctac ggtggggcag ccattggtag daccgcaagg cgggtatcta cagtggtgtc 62400
gccatcggta ggactgccat gtgagaatct aaaacataat tataacttaa tgcatgtgtg 62460
agtcttccct tcccgggtgc gccagaactc ctctcactgc tagaaaccgt gtacgcctag 62520
agtgcatgag gatgaaaagt tcatggagcg ggtactgcca atgcgaggtt atcgaaaagc 62580
tctgccgtga cgcatctcat gtgttgggac gaggctcatg tgttgggcag tcgcggagtg 62640
cgggtaaagt gtacatccac tgcagtgtga gtaaaccaaa tctattcgaa tagccgtgct 62700
cgcggttatt gagcaccggg acatgtatta cacttggcta gactctaaat tcttaacttg 62760
tggggaatgg gatattgcat gatgaatttt atgctgatgg agccacatcc cgagaggagg 62820
gaaggtggac atcctcagaa aaccatgacg attcaatggc gggaagctat ccttgggatc 62880
acaatggatg gtggacagaa ccgtcgttgt ttaaagtgaa cactggtact aaaatttgat 62940
cgatctatgc taggttttag gcttgtgaaa agaattgtaa aattagcttt atgcaaaagg 63000
acctgaagcc attccttgaa ataccctcta tcatatgcat tgttattatg gtggcttgct 63060
gagtacggtt ggtactcacc cttgctattt atatatcttt taggagagtg ttgaagagaa 63120
gcccttgtcg gtacgcttgc gtatcccaca agatgatcgg agtgcggtct tgttctaggt 63180
ctcgtttccc cagtcgactg cctgtggcat gttaaccggg cccttatatt attttgtctt 63240
tcgctgttgt tctctgatag ttgttggcct acctggccct aatgtaagta tttaactctt 63300
ttagcctaaa ttcattcgtg atatgttgtg atccaactat gtatgtgtgt accaactact 63360
gatccaggga ttggtacgga taaacacaga agatttccga tttccaaaat cgggggtcta 63420
cacctgaccc cctcagggggg gggggtcgg gcccgagggt gatgtggccg ccccctctt 63480
tgtctccccg aggggtcgga ccgctcccgt ttctgccccg agggctgagg cgccccgacc 63540
ccttgtgggt tttgcgccgc gtgtatgggt taggtgagca caacgggggct cacctaaccg 63600
tatttattgt ggtttggacg agcgcgtcac gccgcatgta gcgcagtgca gcgcgctcgt 63660
ttatccggtc tgtgaccagt cacagaccgg tcagatcgtg ggttaggtgg caacaggcgg 63720
tctgacacac gcctcgcccc atcccgtcag gataagagcc tccaggcact tgtccctagc 63780
ccggagccag catgctaact cctggagatg acacgttggt cccggtcaga tatatgccag 63840
gcttcatccc aaccattaca agcaagatat tgtatgaaga agggcgaaca tgcagattgc 63900
tggactgaca cgtggtggac aagaatgacc gatttgtgac cggtctgaca ctggtcatgt 63960
cgtcggcaga caaccatgtt cccacgttgc acctgctttc ggcggagtgg aggtaggtat 64020
gggccatccc atcagaaggt cgttcggaca gcagccattg caagtctccg cccatttatg 64080
```

28

```
aagagatgac aggggtgatcc cctggagaga aaaaaaggag gaccttgccc acttaggagg 64140
tgaggacgac tggaagggga gaggatctgg agagtagatc ccacgagagg aaaaaaggga 64200
gaagagggtt tctagagtaa gagctctctg actctccagc tctttgtagc ttcttcgtac 64260
acagatccac cagaaaatag gagtagggta ttacgcttct cagcggcccg aacctgtata 64320
catcgcccgt gtcttgtgct ttttttcattc tcgcgaactt tccacagact aggagcttag 64380
aatctcgccc agggcccccg gccgaaccgg caaagggggg cctgcgcggt ctcccggtga 64440
ggagccccac gctccgtcaa ctttggctta taattaaaaa tactctaagg atatttttt 64500
atatttatt ttcttatgtc tatatgaaat tttaaataag atagatggtt aaacatatat 64560
tggaaaaaca tatatccaaa agtccactat cacaagcgta gcatagatac gattacaata 64620
cgtttccgcg aagactgttt atacctactc tattccctgt tccttgtgcg gttgtgccat 64680
ttggggctgt tttttcatct cggattaact cgcgtggaaa ccgcgagacg aatgttttga 64740
gcctaattaa tccgtcatta gcatatatgg gttattatag cacttatggc taatcatggc 64800
ctaattagac ttaaaagatt cgtctcatga tttacatgca aactatgcaa ttagttttc 64860
tttttatcta tatttaatgc ttcatatatg tgtccaaaga tttgatgcga tgttctggga 64920
aaatcttttt ttaactaaac atgcccaagg tgtttctcca attaagttga cccaaaatca 64980
ttcggcgtca cctttgtctt tcactttcct tccactacaa ggtgatgaca ctgacaaaag 65040
gtccaaaagc tacaggatct gatttttgtt catccatctg tgatgtgtcg gcaagccatc 65100
catggagttc atccactcaa ctcctctctc tcagagagag agagagagag agagacagac 65160
agacacatgc atgatagatt gtgctagtac ggtagtaaca tttattgcc tcctttcta 65220
aaattctagg ttgtttggaa aacaaaaatt ctagattgtt caataaatta ataatattag 65280
gtatttattt taagtcactt taggtgttaa ttttttgaatt ttaaactgct taaactctct 65340
ttcgacgcat ctgagagcag gtacaatagc agactataag ccagctataa atatattta 65400
agtagataaa agaggaaaaa taagagtagc gggctataga tttgtagaca gctgcagcgc 65460
gagctccaag atacatatgt gtatgacatg tgagaccaaa cattaattat gtagtatatg 65520
tttatatgta tctattgtat gaattggcta ttaaattgac tatgggtgtg ttcggaggtg 65580
ggtgttggga accatctccc aagcacggaa aacggagcgg tccattatgg cgtgattaat 65640
taagtattag ctattttta aaaaaataaa tcaatatgat ttttttaaac aactttgta 65700
tagaaactt ttgcaaaaac tcaccgttta gtagtttgaa aagcgtgcgc gcggaatatg 65760
agggagaggg gttgggaacc tcctcatccg aacgcagcct atacatgatt tggagccaat 65820
agttggctat aatattaaac ttgctctgag tggctcttga atcatcgaag tgatagaaat 65880
catatgcaga aatgtttata tttgtgatgt aaaatttgaa tctaaaatta tttatatttt 65940
gaaatggagg aagtactacc taaaacaagt atgagaaaga gacatgaaaa acacaaaatc 66000
tagacttaaa aataattgga attactagca ggaggtcgaa gtcaatcaag acggcgaaga 66060
aaagcacagg ggacagcaga cacgttaaca cgtaagtaaa caaacaagtg gttaattaat 66120
taggggggccc tcaagtctcc cctaaagcca ctaaacatga caggtttgtg taccatggaa 66180
aaaagggtga agcaaaactt tattctctct ctcattagat taccagttgg aaagcaatcc 66240
tgggacctct agctaatctc attattgtag aacaacgttt tcttagagag agagagagag 66300
agaaataagt caataaaaat tactactaat ccacttgaac cagttctgtc ggtgtcggat 66360
gatttaccac atttgacgaa acggactatt tattcgacgt ttcgaaaaac acacttttt 66420
agaaaaaaaa aactttcctc tattagccac tcgttttagt tatataccta tccgagtatc 66480
tgttaagttt atttatcaaa atatttaatt tatctctata attaaatata caatccgtaa 66540
aaacaatcac gcagtaattc gtttcaaact gagcctcagc tagaaaatca aaatggaaat 66600
gaataacaat agcaacagta gagttagttt ttcggcttat catccgcaac ccaaatgcga 66660
atttttaaact tagccttaga gttaattttt aaggcttgtt taccatactt catttttccca 66720
gcattagttt cttttgtcac taaaaattgt tttttttaagt tgtttcgttc atttttctcac 66780
ggtttatcag cagtagagcg aagccattct tggagcctgt ttggcacagc tctagctcca 66840
gctctagctc cactctttct ggagctggag ctcagcccaa cagtttttagg tgcaccaaaa 66900
ttaggagtgt agttgggtgg aactctctca caaaaaattg tggagctgga tttagacagc 66960
tccacaactt cactccaaac ccaactcctg aagttaaatt gataagttga agctctatct 67020
atcaagccct ttttcttgat catgcttcta cctactccat ttttgtttct tggccctcac 67080
aggaattgga aaggaaaggc gtatatgcat caatgcatgc atgcgcacat caacctcgtc 67140
catcaaccat cataatcatc atcatctcgc cagctgacga aaatgacctg catccatcca 67200
tcacggacaa tccaagcgaa caccgctacc aacatcacag ccaacctgtt tatcactagc 67260
tcttgatacc actcctacat aaacactacg cgcaggttaa ttaattaagc gtgattactg 67320
aagtaacatc taatcacgtc ctggttagcc tttaataaga caacagttag agcaggtaca 67380
atagcagcag gatataagcc agctataaaa aaagagagaa aagagcaacg ggctacagat 67440
ctatagccag ctgtagcatg gacttcaaga cacaacgtgt gtataacagg tgggaccaga 67500
```

29

```
taataatagt gtagtatagt aagtaactat tatatatatt gactatagat gatttggagc 67560
tattagtgtg ctatagtatt aaacttgctc atagagcagg tacaatagta ggatattagc 67620
cagctataaa catattataa tgagataaac attgatagag aagagcagcg ggctacagat 67680
ctgtagccag ctacaacacg gactccaaga cacaacgagt gtatgacaga tgggaccaga 67740
tattagtagt atagtaagca actattatat aaattaacta ttacattggc tatagatgat 67800
ttggagttag tagtgggcta tactattaaa ctttttctct tagcaaaaat caagcgccta 67860
atcacattag aggagtagct ttgagacaaa ccaattagcg gcgaatcaag cgatctgcgt 67920
ggtcgtacag tgatgggccg ggccgggccc acagcccgac agtgacaggg ggcctgacgc 67980
atgtcagcct cagccctgga cgggagctag ccgttgtgtc cccggggggag gggagggggg 68040
cattcccatc atttcgcccc tcctccgggc ccacatctca gtgggggtaa aggtgtaaat 68100
tactgcgacc gcgagtccag cgagcctaga tttggacctt gtgtccgttt gactgaaccg 68160
gagctactcc ccaatacggg gggattgcgt tgtgtgcatg ccatgtgggc ccgagcgccc 68220
tttgttcgtg gctttgggtt ggaaaggtga ccgtgtgagc tgtgcggtgt tgtactacgt 68280
attagtataa atcattttttg ggtactactc cctccgtcca aagcttattt ataatttgtt 68340
gtactccaac cgtccgtctt atttaaaaaa aatataaaaa aaattaaaaa aataagtcac 68400
acataaaata ttaatcatgt tttatcatct aacaataaaa aatactaatt ataaaaaaat 68460
ttcatataaa acggacagtc aaacattgtc acgaaaatct aatgtttgcc ttttttttta 68520
agaccaaggg agtatctacg aacaaagata atacatgtta taatcatgaa gcccatgatg 68580
tgattagccc ggccgtttga ctaacctcac gagctacgtg gctgacaagt ttaacttgtt 68640
aactccatca tttcggatac ttagagcatg tacaatagca gactattagc cagctataaa 68700
catattttaa tgggataaaa gatgagagag aagagcagcg ggctacagat ttatagccag 68760
ctgcagcacg gactccaaga cgcaatatgt gtatgacagg taagaccata tgttaatagt 68820
atagtaagca actattttat aaactggcta ttagatcggc tatagataaa ttggagctag 68880
tagtggacta tactattcaa cttgctctta tatgatataa atattgatat aactatatga 68940
ttttgttaat gacatgtttg tttatggatg gactatgtgg ggtcggtcgc ctccgtagct 69000
gaccaaaata caaacttaaa accccctatct ataaaaatct aacttttgtt tataaatata 69060
gatataaaag ttcataatta gagcctcatc ttttaaacga aaagagtact atgaaaacaa 69120
ctcgtaatac aaagactaat tacgacgaaa agaaaatagt actgacaaga ggaaagcagt 69180
gaacttgcat actccctccg taaaaaaaac caacctagac acggatataa cactatatat 69240
ctagattcgt tcgttgtaat gaagtgtcac ctccgtatct aggttggttt tttcgtacga 69300
aagaagtatg agtaaatcta aagctatgta tacccttcgt caaaaaaaaa aagtaaacct 69360
tgtactggtg cgtgtcacat cctaatataa tattgttttt tatggagggt gtacagttga 69420
aaaaaattga tgtgtttttaa ggatgaaaaa tattggtaat gttggctatg taactctaga 69480
aaaaaaaatg cagtaataat aaaatgctaa tttgctggag tactagatta tagacaatcc 69540
agtccaggac acgacaccct ccctactctc tccacttcca ctctcaccgg ccaccgcgcg 69600
ctctctctct ctctctcccc cttctcccgc aagattcttc ccccaaatcc cacccgatcc 69660
accgccgccg cccgctcgcc ggagtcccat cgctgccacc gccgccggag ccgcggcccg 69720
acgcccgccg ggcctgcttg ctgtgtgtgt gaggaggtgg agttgctcgc gctcgttccc 69780
gcggccacct ccgcctgctg ctgcttctgc ttccgctggc attgcgggga ggtcgtgtgc 69840
cggggggacgt gggggctcgt gttggagcgc ggctgccggt gaggtggggg gtgcggcgcg 69900
gcgcggct-cg cgctcgtgcg ccggtggcgc gggcgcgggg ggaagcgtac gggggagggg 69960
gagtgtggcg gcggcggcgc gcggggtagg gacggcgcc gccaccacca ccggctcgtt 70020
cgctggcagg cgctacgcgt ccagatccgt acgccggtat gcttcgtctc gccgcaactc 70080
tctccatttg attagtatcc cctcgccgaa acgaggcctg tgaggcgccc gctttctggc 70140
tggcttccct gtactcgctg cttgctcctg cctgttgggt taacccgttt ccatcgaatt 70200
tgggtaagcg aaacatcgcc tcatatgggc atttggggtt ctggcagcct taggctcgcc 70260
atccgtcgcc gagcttccaa gtgaccggcg cttgttggta tatttgcttg cttgttcctg 70320
tttggtggct gcgctaaatc ttttgtgctg cattgaattt atgccaccca tatacagcaa 70380
attactgagc tgaaataatt cggctaatta ggtccagcaa tatgacatct cgtggattga 70440
atgctaagct gacattgtat cactgatgct ggcttatata taggttgttg agaagtgaag 70500
atgtcgacag gtgaaaccct gcgtgcagag ctatcatcca ggacgccgcc tttcggtttg 70560
aggctatgga ttgtgattgg aatcagtatt tgggtggtga tcttcttttat actaggtttc 70620
atgtgcctct ggtccatata ccgaaggaag ccgaagaagt cctttgataa gattccagta 70680
tctcaaatcc cggatgtttc caaggagatt gcagtagatg aagttcgtga gcatgctgtt 70740
gtcgaaaact tccgtgtgca agaaagccac gcgatatcgg tgcaggagaa acattacgag 70800
aaagattcag ggaaaatgct ggcacacttg gttaggagta aatcgagtga tgccgataat 70860
ttgagccaat gcagctcggt gtaccaatgt gataggctg gtagctcgta ttctggtgat 70920
```

30

```
gaaggcagct cgggcaatgc taggaggcac ttttctcaat atgcaactgt ctcagcatcc 70980
cctctggttg gtctcccaga attctctcat ctgggctggg gtcattggtt tactctgaga 71040
gatttggagc atgcaacaaa tcggttttcc aaggagaatg tcattggaga gggtggatat 71100
ggggtagttt accgtggtcg actcataaat ggaactgacg tcgcaataaa gaagcttctt 71160
aataatatgt aagagatcct gaaatctatt ctgcgtttta cagaacttgt gactccttct 71220
gatgccatca tattaatttt cttttgatat ggtgctgcag gggccaggca gaaaaggagt 71280
tcaggttga agttgaggct attggccacg tcaggcataa gaatcttgtc cgccttctag 71340
gatattgtgt tgagggaatc cacaggtaaa gctatttatc aatcaccttt gctgatggat 71400
ggctagcttt tgtttctact ggcacattat ttacttgcat agggatgtag gattgctctt 71460
ggtctatgtc cacctactca ccagattatc tcaagggata ggttattcct gactgcactc 71520
cttatgctat cgattttttc ccttccaaat ctgatggtgg gattcagcat gcccagtgac 71580
agattatgct cagtccacag aaaccttctt tggaccacca ttcttttacc atgaaaatgt 71640
ggccatagct ccgaaagcta ggattcacta gaagcgcaca actgcttatt ggtttgttag 71700
ttggctataa caaggtctta ctgaaatgta cttccatagt tcattacttt gtgaatgcct 71760
gttcttgttc ttcacgtttc ttctcatgca tgttcaattc taaatttgta ttcatgatat 71820
gtccaagcta ctgtattctc caaagaaaat cagaagtcca ttcacctatg tattttccag 71880
ttttccgcca ttttggatac tgctctagaa acaagttaat aatatagata tttatatggt 71940
ttggccagtg ctgcttaagt gaccatcgag atagaaattg cttaagaaat atactaagat 72000
gttgagtgtc aggtgttttc ggataatctt gttaccaaca aataggtcct atgaatataa 72060
tggtgtctgc ttcacgtaat tcaaaatcca cactcagcca aaataatctg caatagggtg 72120
ttgaaaatat gattatgttt ctcccttgtt ttcatcatga ctacagaaat gaacaatgtt 72180
gctacatctt gtaataattt gtggttttca attgaacaaa acatccatca aatgatatct 72240
acagcaatat attttgcact tctgagcaca caataggttt gagtgtattc gagtcatggt 72300
cattgattta agcttttttat ttcactacat aaccattgat ttgagtgtat ctaaggagtt 72360
ctgtttccac aagtacttta tgttaatggt gtctccttat gctttggcca tccaaactca 72420
ttactgttgt ttaatatttt tagtggttag tggtgtccaa atctttcttt gtgtacatca 72480
tactatgttt ttgtagtcta ttaaacttcc atcctatcat ctgacttgtt atattccagg 72540
atgcttgtat acgaatatgt gaataacggg aacttagaac agtggcttca tggtgccatg 72600
cgccaacatg gtgttcttac ctgggaagcc cgaatgaaag ttgttcttgg aattgctaaa 72660
gcgtaagaaa caaaccatcg tccccgtcaa aaagaaaaga attgttcttc actttagctc 72720
ttttatatgt atatgtttag ttgcataacc cattttccat aactgaattg gtatacaggc 72780
ttgcttattt acatgaagca atagagccaa aagttgtaca ccgggatatc aaatcaagca 72840
acatactaat cgatgaagaa ttcaatggca aactttctga ttttggcttg ctaagatgc 72900
tgggtgcagg gaagagccat atcacaactc gagttatggg aactttggg tatgttgata 72960
tttttttgga gttagtatta atctttccta tgcttagctt ttactgttgg aatgtgcagt 73020
acttcgctta ttcatacagt ataaaatttt acatgctgcg aactttgtcc ttcgtatatt 73080
ataacaggta gctttctcat tgctatcatt gattcatttc aggtatgtgg cccctgagta 73140
tgccaacaca ggtctgttaa acgagaagag tgatgtctac agttttggtg tgctattact 73200
ggaagcagtg actggtagag atccagttga ttatggccgg cctgctaatg aggtgagcat 73260
atatcctaca atctcatgcg tattatgtat gttacaaaag tccgtactat tggaaattat 73320
tttacggcaa aataacgtct atactaggag agacgaattt gcttcaggtg tatggctgtc 73380
tggcagttgt ctactgtcta gttacccttg tctcactttt acagtctatt gtttttatttt 73440
tcaggagctg actagctgta taccttgtca tatataacaa cactgtaacg tggatgcctt 73500
gcaggtgcat ctagtggagt ggctcaaaat gatggttggc acaagaagag ctgaagaggt 73560
agttgaccct gacatggagg tcaaaccgac cattcgggct cttaagcgtg ctctcctagt 73620
ggcactgagg tgcgtcgacc cagactctga gaaaagacct actatgggtc atgttgttcg 73680
gatgctcgag gcagaagatg tcccatcccg tgaggtggta acgctttctc ctttcctgca 73740
ataacattca tcatattata tcattgcaat aaatctgaag cttttgctgt aatcctactg 73800
aaggaccgga ggagccggag gggcaacact gccaatgcag ataccgagtc caagacaagc 73860
tcaagcgaat tcgagataag tggcgataga agggactcag ggccatcagc aaggtttcaa 73920
ctctaagaag acggtgatca tagtcaagaa caatggcttc aaaactctat gcagtaacat 73980
ggtggttggc agagaaaaag gggtatttct ggagggcatt gcattttgta ttgtaggtct 74040
gcatggcggt agagactgga gagagcacag tgtctgatga tggatacccg gagacctgta 74100
attcccattc agtattctgt ttgttagtca agcagcttgt acagatcgtt gtctgttcca 74160
ttttttcatt cttctggttt ttttgtttag gaggctcttg gattaccagt acgaaccgct 74220
gtctcttttc tagaatcacc aacatggaac ctatcaatat ttactactag tactacgact 74280
tgctttcttc ttgctgagat ctatcatgta ctgtacataa ctgacgtgtt cagctgcact 74340
```

31

```
tggacaagta gatgctcgtt ctgtatgtcg aatttacttg atgaggtcga gcattaagta 74400
ccatggctgc agccggcttc tgtttagttg tgctgacatg cggcggcgac ctcacgctgt 74460
gtggcccatt cttgatcttg ggccgaaact gtagcaacgg gcgtacggcc catctatatc 74520
gggattgttc ggcccgttgt agatgggccg gatcgggatt gcgacttacg tgcgacccat 74580
ttcggttggg ccggtggtcc gctacttcat ctagcagtgg tcggcggcag ggttcacaat 74640
tccaatagaa tccaaacatt attggattga gttaaaaaca caaaccaatc ggctttttgt 74700
caggttcaga aaattttaaa ctgaatttta attttttgac aaaaatctat ttagatttcg 74760
tctgtttttt taggtttgtc aacggattca gcgaaatccg atgatatcgc tcgtgagtgg 74820
attttttgatc cggtatcgag attgtgaacc cttgtcgcgc attgcctgac aaagacaacc 74880
agtgaagcgc cgtgcgcgcc gcgtgcgcgc cgcgtgacgc gaagatgcgc aggaaggaac 74940
aagctggcaa gcggcgcgcc catgacggcg gcggcgacga cgacccgcgc gcgtgcgtgc 75000
gtcaacgcac gcgaccggcc gagatccgtc agtggccgcg gctatatata atacatcgtc 75060
gcctcacacc ccccacacac cgagtcatcg ctcgccggag ttagagttcg tagcggcgaa 75120
ggatatagcc atatattata gatggcgatt ggtgttggtg gctgctgcgc cgtgctgctc 75180
gcggcggcgc tgctcttctc ctctccggcc accacatgta agcacgccca tcttcttctt 75240
cttcttcttt ttttctttct ttttttttt tttttggaaa tgagccgcag ctgacaaaaa 75300
gatcactcac acatggatac actgtcgtga cactaaccaa tgcctaagcc attttgtttt 75360
cttgtttttgg attttttcttt ttatgtgtat cacttttgct tgttgctctt gcagatgctt 75420
atgattccct ggatccaaac ggcaacatca cgataaaatg ggatgtgatg caatggactc 75480
ctgatggcta tgctgtaagt agcggtggca gtacaccaac atctctacct ttattttcgt 75540
ctcaacctgt acatttacac tatcttgttc tactacctct aataaaaaa tatatttgat 75600
gttttaaaat ctattaagtt ctagagatta ggaaagctac acatggtttt atgttttgat 75660
actattaagt agtatatttt ataagttata ttgaaggctg gggtttcaaa agtttgacta 75720
cactagatct tattcaaagc gtctaatgat tactgaacgg aggaagtatg aacttataga 75780
cttgaagtta aacagcatag ccacatctct tcatgtatac ttcatccgtt tcatattata 75840
agatttteta gcattatcca tattcatata tgtgcgtcta gattcattaa tatctatatg 75900
aattgggcaa tgctataaaa tcttataacc tgagaaacgg agggagtatg tcgcaaacaa 75960
caacaacaat aacaacgagc aaaatctgta tcgaatccgg tttccctctt gtaactgtat 76020
caaagatctg tcctctgaaa cgtcccctgt tcatcaggcc gttgtcacac tgtccaacta 76080
ccagcaattc cggcacatcc agccaccggg gtggcagctg gggtggacat ggcagcagaa 76140
ggaggtgatc tggtccatgt acggcgcgca ggccatcgag caggcgact gctccatgtc 76200
caaggagggc agcaatgtcc cccacagctg caagaagcat cccaccgtcg tcgacctcct 76260
cccgggcacc ccaatcgacc tgcagatcgc caactgctgc aaggctggat cactgagcgc 76320
attcagccag gacccggcaa attctgccgc gtcgtttcag atc            76363
```

<210> 28
<211> 53905
<212> DNA
<213> Orza sativa Asominori

<400> 28
```
gatcagtgag tgagagtgat gtgctattga tttttcgtcta ggattttgct gtgctcttct 60
tcttcttctc ctctctacca agaaagatcg atggaggaga atttgtagga cgcgtttctc 120
acgaattact tagctgttaa tgatcagctt gatgtgtacg atatgatggt gcagagtgaa 180
agttgtgttg ttcactggtg gatcatggga tgggaatatg ggattgttgt aagatgtaac 240
tcaagtgttt tcttttttgg gattacttt ggtaataaga gcttgggtga tcgaaaacta 300
cagatggttt ttctttaag ttgtatgatc tctgtagagt ttttgagtaa tttgtagttt 360
tgtaccctat caaagatcat ctctagctgc ctctgagctc tccaactcta tatgtccatc 420
tctagtatat atgtcccata tttctgactg aaaattttca agtcggttgg ttccctccgc 480
ctggatattc tttcagctaa ttagattttt tttaaatgat aaatttgcta aaagcttgtt 540
caaattcagc taagatctat tcaaacttca atttctctat cgaaattccc ggaaatttca 600
attcaatcat tccccaatac atgccgattt ccgtaatatt gaaccatgac atgtaaacaa 660
cgaaggaatc aagggcatat ttagtttcat ctcacatcga atatacggac acacatttga 720
agtattaaat gcactctaat aacaaaacaa attacagatt ccgccagaaa actacgagac 780
gaatctatta agcctaatta atacatcatt agcaaatgtt tactatagca ccacattgtc 840
aactcatgac gcaattaggc ttaaaagatt cgtctcgcag tttcctgacg aaccgtgtaa 900
ttattatttt ttctacgttt aatactttat gtatgtgccc aaatattcaa tgtgacaacg 960
```

32

```
tgaaaatttt tatttggaac taaataggcc ctaatattct ttcaagatat tagaatagtt 1020
atccctctcc acctccctgc acaaacagtg aacttctttc tccttgggca caggagtagt 1080
agcagctccc ggaaacagaa agcaatcaag caaagtcctg aacctgaagc atcctgaaac 1140
cagcagacgg cagaaaccag tgggcgcagg cgatagcagt ttttcgtggt ccggcgtaca 1200
gccaaaatac tggccatcgg gtgcctacat agaatgagtc cactggacgc agctaccacc 1260
gtgtgtgcta cactgaccgc cgctgctcgt cgaccagttg tacggggctg acttattctg 1320
aatttctaat ggtttatttg ggggtttaga acactgaggg gtgctttaga tccaaagatg 1380
tgaagtttgg gcgtgtcaca tcgggtatta tatatagtgt cgcacagggt gtttgggcac 1440
taataaaaat actaattatt gatcctatac gataagctat ataatactcg atgtgacacg 1500
ccaaaacttt acatccctga atctaaacac ccttttaaat agagtatttg gtgtgaaata 1560
taattttgat ttgggaagaa ggtgagtgag atttggaaaa aaaaagcatt tcaattaaaa 1620
aatttgccag cagtaaataa agaaactact cggttttgta attaaagtga ggttttggca 1680
cttctttgcc ctaaactggc ctccatttta taaagtgaga accgtgcagc aaaagcctga 1740
aaaggcaaaa agaaagaaat tgtagaggtt tttcaggagg atacaactag gtgggtctct 1800
aactctctat gcagctgtgg tctgtggagc aaaacgatga aatggaagac gggacgttga 1860
cgagggtgaa gaaaacgagc gtttgaccag cgtcaaccat ggcgtgaaca gtagcaccac 1920
taacctgacc gagaggttga agaagatgca atcaacgggg tactatagtt cccacgaatt 1980
tcccagcaac aacgggttgg ttctcactac tcacgaattc cctgtggctc aacaactact 2040
agtacatcct tttgtccatt atgataaaag ttctatctta attttattt acacgttttt 2100
caaactgttt tttaattttc tatataaaaa atacttaaaa tatcaaataa aatctatttt 2160
tggagtttta aaaaactcaa ttaatcatat atattattga cttattttat tttacgtgga 2220
ctaaaatatc ttcatcttca tttaggttat gttcttttct catcaagata catgatacat 2280
tagcatgttt ttcaaactgt tttttaattt tgtatataaa cttactctaa aatatcaaat 2340
aaaatttact tttagggttt ataaaagtaa aactcaatta atcattacta acttgtttca 2400
ttttacgtgg actaaaatat cttcatcttc atctaaggtg gtgtttggat ccaaggacta 2460
aattttaatc cctatcacat cggatatttg acactaatta gaagtattaa acatagatta 2520
atgatgaaac ccattccata accctggact aattcgcgag acgaatatat tgagcataat 2580
taatccatga ttagcctatg tgatgctgta gtaaacatgt actaattacg gattaattaa 2640
gcttaaaaaa tttatcttac gaattagctc tcatttatac aattaatttt attgttagtt 2700
tacgtttaat acttttaatt agtatacatc cgacgtaaca ctgatcgata caaacaccaa 2760
ctaaatcgaa aatcaccgaa tggctcgtca tcctcccaca tgagatgcca agatggaaca 2820
ccaacaatcc aacggctagg aagcgcccca tcccacccac cgcctaaccg ccttcctatg 2880
caagtgggtc ccacccctc cttcctttt tttttctttt tacaaatccc cttcccttc 2940
ttggctagct agctagcttg gcccaacgcc acgagccgag ccgagcacat ccggagccaa 3000
gccgagctca gcgcctcagc tccccctcct cctcgtccca ttcccggttt cctcctccga 3060
tttcccccaa atccgcacgc ctctcccctc cgcctccatt tttcccgatt cccaattccc 3120
aaatccggat cagccgcagc cgcagcagca aaaaatttcg aaatccaaat ccaaaccat 3180
ccccccacg acgacgtcac ccacatcccc acccccgcga gacgagacga gacgactccc 3240
aaatctctct ctcctctctc ctatgcgcgc cgccgccgcc gccgcagcag cagcagctag 3300
gaggcggagc agcagcagca gcagcagctg agatgatcgt gcgcacctac ggccgcagat 3360
cccgctcctt ctccgacggg ggaggagggg agcgcggcgg cggcggtggg ttctcgtcgt 3420
cgcaagacgc gttcgaattc gacgggggagg aggaggacga cctcgtcctg ctggggtcgt 3480
cgtcgcagtc gtcgcacccg cccgcgccgt cgcaggagtc gtcgtcgatg tgggacttcg 3540
acgaggaccc gccgccgccg ccccggcggc ggcgggggag gggtgggggt ggggactacg 3600
cggagcccgc cacggcggcg gcggcggcgg cggcggccac ctcgctcatg gaggcggagg 3660
agtacggcga gatgatggag agcgtggacg aggcgaactt cgcgctcgac gggctgcgcg 3720
ccaccgcgcc gaggcgggtg cgccgggcca gcttcctcgc gctgctcggg atctgcgcct 3780
ccgcgccgcg ccgccgcgtc ctccgggccc agggtcggt acaccaaaga accctccttt 3840
ttttttctt acttgtctgc gctgtaagta aagaataaca attcgcgttc ttgctcttgc 3900
ttcgcgggca atcttggtga ggaatcttgt tagggttatg aaattgggca gccagttctt 3960
gtttcttctg cgtaatcttg gcggaaacag tgggattttg tacgattatg gctccgtaat 4020
cggcatttct gtgggaaatg aaccaccttt agggcatttg accttcgaac agcatgcttg 4080
gtgttgcaat ccgtagctat tgccttcatc ttaggcacaa gaacttgttc tgaattatga 4140
tttaccaact tgtgtttgtt ttcttgttct gagtttcttt gcttggttag ggttagggtt 4200
atcaccgtgg tggtgcagaa ttagatgttc gctacttgtc ttaacctctg ccttgcccaa 4260
tttggtaccg agtgttacag ctgggtttag gaagtgtgat cttttgagcat ttctagcatg 4320
ttggtctctt tattttgcta atctcacatg gttgtagagg aaggaagcat agtgactgat 4380
```

33

```
gatgaatgcc tagatactag aaatacatct ttattaactg aattaggatt gcttgggtat 4440
ctatgtagat atgactgtag aatgttactg ctggaaatgc tatccaatat ccattgatct 4500
ctagcctaat atatctctcg aggccaagag atcagtcaat tttgaacttt caggagagtt 4560
tctatttggt acttaatctc ttttatttgt tactttggt gcctggctct cttttcatga 4620
ttgctaagta gacaggtaaa gttctaccta aaattattct taaaagttca aaatcgcttt 4680
agattaagga gtgccagcca gagccttagg cagagtctta taaaccaaaa gcacaatgct 4740
acaatgttca caaaactttt gtggaatttc cacttgagct gtataaacat cgcaatctac 4800
tgtgaataaa agaagcactt gatggaagtt catgttagca aatgacatgt tttctgtgag 4860
gaggttgatt gcttgaactg ttatggactc ttgcaacttt ttattttact tcgtacccat 4920
ttatgctaat gtgcacaaat aaaattgctg agagtaaaaa tgtacaactt gttacgcacc 4980
agcacacttc ctatttgtat ccattttcct gttgaatttc aaatgtattc aattgctgaa 5040
attgttccat tcaacaaaca catattccgt taatgaaatt attatacatt gcgttttgtt 5100
ttcttactca caagtgtcct cttttcttat atcctataga ttggtgcaac aaattattga 5160
tgcaattttg gttttgaaca ttgatgatcc tccctgcact attggtgcag ctgctcttct 5220
attcgttttg gcaagtgatg tgagtacctc tcaatcccat ccttgtgctt ctgtgcatgc 5280
ttcattctat tttttacgca tatcgattgt tttctttat ataacagccc ataaaaataa 5340
tcacatcatg gcaaagttat ttatttctcc agtacagtta tataagtatt caccactttt 5400
ccatgaatat cttggcatgt gattacaaag aagattattt aagaaagtcc atgcttttat 5460
ttcatcattt tgtttgaagt tgaactttaa tttatggtgt aaatttcagt taatattgct 5520
agcagctcgt attctttaat ggcataactt cacttgtgct tattctccaa tatctccctt 5580
cttgttgttc aggttcaaga aaatcatttg ttggattcag aatcttgtgt ccattttctt 5640
cttaaattat taaatcctcc agtgaatctt gttgattcca aagcaccatc gataggttcc 5700
aaacttcttg gaatcagtaa agttcaaatg cttaatggat caaataagga ttctgactgc 5760
atttcagagg aaatcctttc aaaagttgaa gagattctct taagctgtca agagatcaag 5820
tcgctcgaca aagatgacaa gaaaacaaca aggccagaac tgtgtccaaa gtggcttgct 5880
ttgttgacaa tggaaaaggc atgcttgtct gctgtttcag tggagggtaa gttttaatca 5940
aatttcttgg tcatgatttc cctttatgac cattataatt attttatga gccaaataag 6000
cagttgccat aagttacata gcacctgttt acaatattca tgggtggttt gcttagccct 6060
ttgcttcacc tgcctttgat tgatgacttc catccgtgtt gcacaactga attggagtaa 6120
ttgactgcac tagaagcacc tatggccatt gtcatactag gaaggttttc ccttatcaaa 6180
tatttgattg ttacagagac ttctgacact gtgtccagag tcggaggaaa ttttaaagag 6240
acattaaggg agttgggcgg tcttgatagt attttgacg ttatgatgga ttgccattca 6300
acattggagg tgagatctcg ctaacatcgc atattttaca cttcctttgt tcaactctaa 6360
aggatggtgc aagttttgtt cctttttgcc attttagctt taatgtgctt gaagccacat 6420
gaaagcaatg cttgtccaga tacatagcca aaggttgtta tattttggga catggaaaat 6480
gcttgaggta gtaactattt tcatcaggac atggaaaatt ggctgcatca caaattatgt 6540
tgtttcatgt tgcaaaatag ttttttaata cttttttatt ctgcatgtgg tgttagtgtc 6600
ttacagtgat tcctctgatg attatatccc ccacgataat aatacttgac atatctacac 6660
caagtggaca ttattcattt ggatgttact tttccagcta tacttgctgt tcttgcataa 6720
actttggagt aaattgcgta tccctttaag agataaactg cttggtgctc ctatctgtgt 6780
actttttatg cccccaacta ataatgcaat catattacgc tgataaactg aataaataaa 6840
ttaacaatat acttctggtg gaaaccttgt gtatcagaat ctcataaagg atacctcaac 6900
ttcagctttg gacctaaatg aaggaacatc tttgcaaagt gccgctctcc tcttgaaatg 6960
tttgaaaata ttggaaaatg ccacatttct aagcgatgat aacaaggtaa tgttccttat 7020
atattctgtt tcagtttagt acccatttc ttcttctgta ccatcttctc ccctcatttg 7080
ttctgtgcaa aatgtgcaaa cagtgtgact ttgtatttct gcttaacatt tttctttttt 7140
tcctgaaaag cagtataaac tcttacactc attttgcttc ttgcagaccc atttgcttaa 7200
tatgagtaga aaattgtacc cgaaacgctc ctcgctttct tttgttggtg tcattatcag 7260
tattattgag ttattatcag gtatttttct taataataca atatgtccgc taacacaata 7320
aaatgtttta aacatccagt atgttaaagt tgcagtctga cgcctatttt gttttgctgc 7380
agctctttca atactgcaga attcttctgt tgtttccagc tctacatatc cgaaatcgtc 7440
taaagtctct caacagagtt gctctggtaa taacaaacac caaatttgtt tgatcaactc 7500
gttggctttt ctgtgcactg tttcaatata gtttggtcgc cattcaagtc tcactacaga 7560
tgttgaactt gacctgacac ggtggcacca atatttataa aacgctacct gatattttta 7620
atatttcatg tttcctgacc cagattatct tgttggttcc tcatataagt ttaattagtg 7680
tcgttcttga aactttgtta tgcagcagat gtcatggggg gaacttcatt taatgatgga 7740
aagcgcaaga actcgaagaa aaaaaacctt ttgtcgaacc agacacgcca tagttgctta 7800
```

34

```
tcttcaaaat cagaagtttc tcatattact atatcttctg gtagtgatgc tggtctgtca 7860
cagaaggcat tcaattgttc tccatctata tcaagcaatg gggcatcaag tggttcatta 7920
ggcgagagac atagcaatgg tggtgctttg aagttgaata taaaaaagga tcgtggcaat 7980
gcaaatccaa ttagaggctc aagtgggtgg atttcaataa gagcgcacag ttctgatggg 8040
aactccagag aaatggcaaa aagacgccgt ctatctgaaa atgtaatcac cgacagtggt 8100
ggcggtgatg accctttgc ttttgatgat gttgatcagg agccttcaaa ttgggaactg 8160
cttggtccaa aaaagaaatc gcctcagaaa catcaagaca aatcaggaaa tggagtgcta 8220
gttgcaagtc atgaaccaga ccaacctgaa gatcttaatc agtcgggtac aacatctctt 8280
tttagtgcta aagatgaatc cagtctttg gaagactgcc tcttggcatc agttaaggta 8340
attaaatatg tttccttctg atctttcttg tttcttcttc aagagaatat acattcttgg 8400
gtcacagttt ctcggtttgt ctttgtgact ttgttgagtg acatattttg aattcacaaa 8460
atttcctttt caatatggct cctcaatcta tagcatctgt cgtgtatgta ttctgtacaa 8520
aatagtattg taacatctcc tagaagaaat tggcaccatc catatcatac agtagcaatt 8580
tatgagacgt gatcctgatt ggaggtttag gacagagcct cgagctaaat tgctattgta 8640
ttgtatctac tatcttttag tacatgatat gtgctgggca ctctgtgtct gagtgtagtg 8700
agtgcttaag tttacatagt tcagctaaca tgcatatgta agacagttta tgattaaatt 8760
taagtgtaga aagaaggtac tttcaaaaga tttttaagga caatataatt gtttcaccgg 8820
gactcatgct tgttctgact gtgagcctaa tgttaccttt acatgccctt acattgtcta 8880
tttttatcg ttttatgaga tcttccaaac aacttgatct gtcttaatgt ttttttgcta 8940
gctcctttct tggatatctg gtaaatggtt aggccgaagt atgaactttg ccttattgtt 9000
tcaaagaaaa tgtaacaact cctggaaaag tctaattttg gttgcccttt attttgctga 9060
ccgtattggc acacatctaa ttctgctgtt cctttctggc aggttcttat gaacttagca 9120
aatgacaacc catctggttg tgaattgatt gcgtcatgtg gtggacttaa caccatggcc 9180
tccttgatca tgaagcattt cccctcattt tgttttgtcg tggacaacaa ctataacacg 9240
agagatgtca atcttgatca tgagttatca tcttctcaaa acagcaaggc acaccaggtc 9300
aaaattaagc aattgcgaga tcatgaactt gattttctgg ttgccatatt gggcttgctt 9360
gttaaccttg tagagaagga tagccttaat aggtaagtcc ctcacatgct tccttccatt 9420
tgctcaattc atatcagtgt tactgttctg gcagttcctt ggggtcagga ctcagaaaca 9480
tccaattaat gttcatgttc tcttaacgac tcagaaatac tttataacct ctccacaggg 9540
tacggctttc atctgcccgt gttcctgttg atctatctca gaatccacag agtgaagaga 9600
cacagagaga tgtcatagca ctcctctgtt ctgtattctt agcaagtcaa ggtgctagtg 9660
aagcttctgg aactatatca ccggtaattc aaaattcttc aagttccttt tgtatgtaga 9720
ttatatcttt gtaaaactcg gcatttatta cctgctcttt gtttcaaaaa gcagtatttt 9780
attttgctcc ttagcatagg tcagcagaac agttgatctt attcagaaaa caatatttg 9840
catgtaacat actgttatct atgagatgaa aattaatgca tgtgtaataa tgtcaatgat 9900
aaatatttgc tatctgaatc cagtctacca actctagtta gaccgaaatt actgaggttc 9960
tatttcaaag aataatttag tgcaccattt gttcaactac tatgaagtaa aatggtattc 10020
ccttctattg acatcgggtt agaagtgaaa ggccatctta atgcaatgtt ctcaatgcca 10080
caaacccaca aatttcatta acacatacag attattatta acatagctat aaattggatt 10140
tccagaagct tgagttgaat ttattttgtt acaattgaaa gcactgggaa cattagcatt 10200
ttttttagt tcttggttat tgcaatttat aatgttatac agaactgtgt acctcacaat 10260
gcattcatta tgacattcta tgaaccattt gattgactgt tgcttgtaaa caacaggatg 10320
atgaggagtc tttgatgcaa ggagcacggg aagctgaaat gatgatcgta gaggcctatg 10380
cagcccttct tcttgcgttt ctttcaactg aaaggtttgc aatctgtagt tgatggattg 10440
ttttattaat gtctaactac ttgcataatg tcagcactat ggcatttaac ttatactgtc 10500
tgttaactgc aacagcatga aggttcgtgg agccatttcc agctgccttc caaataacag 10560
cttaaaaatc cttgtgcctg cgctagagaa atttgtggta tgtctccata attcttgaac 10620
tactgtttgt ataaaaaagt atggatgatc tttgaattta ctccattttg gaaatcatta 10680
attttcatg tctgaggtgt gaggtgtcac cataattgta cttcccatcc aggaagcctg 10740
tttgcaaaat ttcacataaa taaggaaaat ttgaacttgt ttcaagtttg aatagtaaca 10800
ggatgtttta tttctcaact ggagaaaaca ttccggctgg gactttaac ccttaaaatg 10860
ctagtgtgct cccactgtaa gattgtctgc tgtcacattt gaaactttgt gtaatacctt 10920
tatcactacc cttgagatga gagacacaat ctggtaccga gttaagttat tgataactcc 10980
cagttgaagt acagcaccaa atcaagccaa catgttggct acgtaattaa atgttctctt 11040
acaacagata gaggtaaaaa gggagtttct aagtatctaa cctcttaccc tcttggctta 11100
gcactccagg cacaactctt tcttaacttg cgatttagga cttgactctg agaatattgt 11160
gtgcccacac tggttgagtg catgcctatc taagctgcta gttttgttc attttgatta 11220
```

35

```
actctgaagc tgcctgagct tattctgctt ccatcattta ttaatccatc atgtttctct 11280
ttcagtcgtt ccatctgcag ctcaatatga tcacagagga aacgcactca gctgtcacag 11340
aagttatcga gaaatgcaaa ctttcataga aagagtgaag aggggcctgt acagatcaac 11400
taacaacctc tttgcagcaa aaaagcatac acacaagtgt ttgtcttggc ctggggctct 11460
gcagatggac tgatactctg acctgcagtg ggcttgggag ctaacaatgg tttcattctt 11520
tttttttta tgttttcccc tgttgttttt gctcatgttt tgtgtaattt tttcttctca 11580
tctagcgatg ttatttttct tagcatgatg ggagtagccc tcctttttt tttctctaat 11640
taagtgtaaa gtagcaacag cataggatg aatgttcagt gtagtgtgtg gtgtttcagt 11700
tattcagaga cgtccataca gtttgtacct tgtgaccaca cgtcttaatc tgatgaagct 11760
tagaataaat cacatgttag caatgcaata tcatctgcgt cttctctcac tttggtggcc 11820
atcaaattct gtgtagaagt gtatggttgg tgtgctgttg caaatgccgt attccgctct 11880
gttttgtgga agttaagaag tccctagttg aaataccgat ttttcatgat ctcggagatt 11940
gatgcaactc tgattgcagc atttcttttt attagaatgt acactccatg ctatcatgat 12000
gtttattgtt tagtactaca agatttggtt aaccattatt ttaatatcat aataattta 12060
taaaatcttg gagtaacaag ttcataatac atgatagcat aacttttga ggctagtcta 12120
tgtatattgt ctcctttgtt tttaaactaa gcactcaata aattattgat ggctgtaatt 12180
ttctgaaggt ttcaccggtt tcggcccgtg ctttataaat agcttcggca caaaagacaa 12240
aacggtccct ccaacacata aatggttgag tttacgtttt cattatcttt ggtaaaatca 12300
agtccaccac gtagacactc ataacaaaag tttgaatatc ctcagaaatt ttgacttgag 12360
tctatcttac ctttgatatc ggacatccaa ccctccctcc ctccctgaac tttatattat 12420
tcatattaca cctgaacttt atattattca tattacaccc tgaagtggtt ttcatttaat 12480
tgcatacatg ctgaaatagt ttgacaacgt gagatgcaca aaatctacac gttcgtctta 12540
agttgcaatt cattttatcc ctttttcttt tctctcttac ataggaatat caatagtact 12600
aattcacatt acaatatagt ataaattggt gatcgattat tggcaatata ctatattaaa 12660
tattcaaaac tagtcattta agctgccaaa taagtaaacc actatcgaaa accacaatat 12720
aaatggcatt acaaaactta gggggttgaa tatccaattt taaagttcat gatgctagag 12780
gaatttctat caaaagttta tgggtacata tggacttttt ccttttaaa agaagctatt 12840
cttatcgtaa acgttaaata ttttttgtac tttatttttt atgattgaaa aaaaaactta 12900
gttttcaaaa tgattggtct gtatacaagc atcaattaga cttaataaat tcatctaaca 12960
gtttcctggc agaaactgta atttgttttt gttattagac tacgtttatt atttcaaatg 13020
tgtgtacgta tatccgatgt gacaaccaaa cccaaaaatt ttccctaact ccatgaggcc 13080
ttacagatat atttgatggg tgtaaagttt tttaagttct ttgggtgcaa agtttttaaa 13140
gtatacggac acacatttga agtattaaat atagacaaat aacaaaacat attacatatt 13200
ctgcctgtaa acaacgagac aaatttatta agcctaatta atctgtcatt agcaaacgtt 13260
tactgcagca tcacattgtc aaatcatagc gtaattaggc tcaaaaatat tcgtctcgta 13320
atttacatgc aaactgtgta attggttttt tttttcgtca acatttaata ctccatgcat 13380
gtccaaatat ttgatgcgat cttttttggcc aaattttgtt ggaatctaaa caaggatcaa 13440
atttgctgaa tttttccaga cgtcacggct tgttcatcca tcgttcgcat cgcgattcgc 13500
caccgacgcc ttggtttcca acgaatttta tcatccgctt aaatacatcc aaagctctcc 13560
atcgccatcg gcggccaacg gcgaccgctc cgctctaccc aatccaccca tccactcgcc 13620
gccgcccct gatccaaagc ctccgccgcg ccgccgtcga gaggaggagg aggaggagga 13680
ggaggaggag gaggcgtgag cccctatggg gaccctcctc cggccgcgtc cgctcgccca 13740
cgccgccggc gccggcgacg ccacgccgtc gaccgcgcac ggtagccacg cgcctctcga 13800
gaggccccc ccccgccgct cgctgatctc tcttctcatc ctgtttgggt ttgggtttgt 13860
gatttgggtg tttttttttt tccgcagcgg tggtggtgag cggtggccgc ggccgtggcg 13920
tggagtgcca gccgcatcgg gtgcgccgcc gcccgggtcc gcaggttgcg gtggcgacgg 13980
cgagctggag gaggcggagg gagaccgtgg tgagatcgga tttcgccgct ggtggtgccg 14040
ctaccatggg ggattcgccg caggcgctct caggtttgca gcctcctcca ctctcttctc 14100
gcaaaatgtg ttgctatgtt cctctcgctg ggctggcctc atagccatta atgtagtttg 14160
ctggaacatt acattcggaa cgttgttggc aattgcttga caaaatgtgg aattgtggag 14220
gggagaaaaa tcgtttgaac ctgcagtgac aaaattgcca tctataattt taaaactgaa 14280
ggtgtggaaa tcaaacataa tcattgccag cacatcattc ttgttaacca ccttgacata 14340
ttgttggctt ataacagtta gctccacacc aacttggaag gtgtcaatgg aatgtaagta 14400
taaattgagg ataactggca gttgttaaga cttttctacag aacttgtagc agctaaaact 14460
agctattgtg catttatgtt tcatggaatt tgagcggcaa tggatatttc ttactaagac 14520
gtataatgca aaacaaaaaa aaaaaaaact atgtctatgc agtttacatg taatgtgcgg 14580
atgcaaataa aatcatgttc atggacaaac taatgggatt cataccaaat tccagaattg 14640
```

36

```
catttcttat gtggttactt ttgtttgttg atttggttac cagacatcga tgtggtttca 14700
agggtcagag gggtttgctt ctacgcggtg actgcagttg cagcaatctt tttgtttgtc 14760
gccatggttg tggttcatcc acttgtgctc ctatttgacc gataccggag gagagctcag 14820
cactacattg caaagatttg ggcaactctg acaatttcca tgttctacaa gcttgacgtc 14880
gagggaatgg agaacctgcc accgaatagt agccctgctg tctatgttgc gaaccatcag 14940
agtttcttgg atatctatac ccttctaact ctaggaaggt gtttcaagtt tataagcaag 15000
acaagtatat ttatgttccc aattattgga tgggcaatgt atctcttagg agtaattcct 15060
ttgcggcgta tggacagcag gagccagctg gtatggctgt agtctcatcc ctgctttctt 15120
aagtagacat atatacattt acagtatttg gtaaataaac aagatttat gaatcatata 15180
tgattttggg gaaaacacaa aactctcttt gttggctgcc ttgaacatag ttctgttcac 15240
acagttatag caccttcttt aaaatgaaga actttgttgc atacacataa ggccaaacca 15300
cataatgaat tttgtttatt tctatctttg aatgttagca tcgtttttgt ttaatgcatg 15360
atcgccttcc tatatatttg tagtatgtca acattgtatt ccatgctgag cataacaaat 15420
ggtttgttaa aattcaggac tgtcttaaac ggtgtgtgga tttggtgaaa aaaggagcat 15480
ctgtattttt ctttccagag gggactagaa gcaaagatgg aaagctaggt gcatttaagg 15540
ttcagtaacc aaacttaggt tacattacat ctaatgagat ttttatattc agtatataat 15600
gttaaccttc tcatggtgta ctgacgtggt tataaatgtc cccagagagg tgcattcagt 15660
gtggctacaa agaccggtgc tcctgtgata cctattactc ttctcgggac agggaaactg 15720
atgccttctg gaatggaagg catccttaat tcaggttcag taaagctcat tattcaccat 15780
ccaattgaag ggaatgatgc tgagaaatta tgttctgaag caaggaaggt gatagctgac 15840
actcttattc taaacggtta tggagtgcac taaagaaaga tggtgttttt ttttattata 15900
tggaacctat tcaaaggcac agacaggctt tcaaggctaa gcttgttaca ggtactgata 15960
ctagttacta attactttcg taatcagtat aaataagctt gtgtagtgta atggcattgt 16020
acatttctgc acttggtaaa tttacagaag aggcaagtaa tattttagag gattgagttt 16080
attcacccag tcatatagtt gaagaggcaa gtaacctgta agagaggact gaacattaac 16140
acctcttgtt cgattaaaaa tgaccaaaga gcatcaaaca tgtattcgag gctgttactt 16200
tagatatggc ccattaattt gtttagttgt ctatgtacat cctagttggt gtaaatgcca 16260
gttaccattt ctatgatcta aaacaatcaa ctctttttagt atattttcaa aaacgaaaat 16320
tcagtacaca tgtatgaatc ttaatattct tctctagctc gttacaaaag caacaaaggc 16380
accgtgtcag ctggttcaca ttagctagtt tgtacttagc attatccact agcaccttat 16440
tttcatgcat atcatgctaa tttgcttgcc cacgttgagt gggaattttt ttcatgtttt 16500
ataatttata tatgttttag acttctagtc cacaatttat gtacttcatg ttcctgagcc 16560
tctagtatgg ctgatagcag actaggtgct gagtgctgtc ctttttttgca gactgaagag 16620
agaagaaata caagactgtc cattgttagt cagatttgta aaaatagact ctgatgtagt 16680
ttacttttgc ccctatttta tttttaacaa tacaaatata taacagatcc taagaactta 16740
tcttaattta ggagaagttg ctcgtttcat taaattaaat tgtgaagtaa aaatgtgtgc 16800
tcgagtctgt caatgcaatc ctgtgttctt gtttgaagat atggtgtagg gcaggccagg 16860
attgaacact gaatggtaag actgcttctg ccttcagacg ttattgctaa attttttagct 16920
acttgcagtt agtgctgcca cgccgattaa gcagtagaac aaagtagttt tgtcgtgcac 16980
aaatgagtta tatttcattg gaaatcgaag cgaaaacgaa tcaaaagtta gaagaaaagg 17040
ggaaacttgg taattactcc ataaagagag tgcattttat tggtaagatg gtatccggaa 17100
gctgtgagct ccgggctgta tgtattctgg caaatttgat atgagatgct cgattattgg 17160
cttaagttag cgatatcaaa tttggggaag caccaaagga attattgtga aggagttatg 17220
ggtgcgtgac gttatctgct aggttcaaat ccttgtggct atgaatattt atctgctagg 17280
ttcaaatcct agtgactatg aatattaatg ggtaaggtaa gggatttatt gttaattttta 17340
gtttctttaa gattgtgcca tcggacgcca ttcggtaact gtaataatgc tttgtattgg 17400
attcacttgt gttacatgca cgcactaaac atgtgctttta cctttttatc tgttttttgcg 17460
ttctgggcta gaaactcaaa cgttgaattt tccatggtct gctcaacttg acaattactg 17520
cgtgtcaagc gatcttatac gcatactatg cgcacaagtg attgtatacg gatatgatga 17580
cagtataacg tgtgatattg atttttttaa taaaaaaatg atgttccttt ccttgatgaa 17640
ggaacaaaga cttttttttaa aagaagggta ttactaaaaa caaaaatgac aaaaacaaaa 17700
tatcagtgca catggcaagt gtgctcggca attttttctc tgtactttaa acaaaaatac 17760
ttctatatgt tctttttttat aagggtggca caaatctttt aaatgagcca aatatctaca 17820
ttggatttat taaaaactgt ataaattata atttatactc tgaaaggttg tgtgcatctc 17880
tcttggagaa aatgtataag ttgcaaacaa acattaatcc acgttatgta actttttttc 17940
gccggaaagg ccgaaggagg cctgacggag cgtggggctc ctcaccggga gaccgcgcag 18000
gcccccccttt gccggttcgg ccggggactc agggtgaaat tctaagctct ctgtatgtgg 18060
```

37

```
aaggttcgcg accgtcgaaa gagcataaga cacgggcgat gtatacaggt tcgggccgct 18120
gagaagcgta ataccctact cctgtgtttt ggggggatct gtgtatgaag gagctacaaa 18180
gtatgagcca gcctctccct tgttctgggt tccgaatctg gaaaagtcca gtccagtccc 18240
cccctctaag tgggcaaggt cctccttttta tatcttaagg ggataccaca tgcaccatct 18300
ccctcctttc tgtgggggact taccctacct tttcataaat ggacggagat ttgtatagtt 18360
gccgtccgaa tgaccttctg ataggacggc ccatacctac ctccacttcc gccgaaagca 18420
ggtgcgacgt gggattatgg ctgtctgctg acgacatgac cagtgtcaga ctggtcacaa 18480
attgctcatt cctgtccacc acgcgtcagt ttagcaatct acatgttggc ccttcttcac 18540
acaacatctt gcctgtaatg gttaggatga agcctggcat atatctaacc aggactaacg 18600
tgccatctct aggaggtaac acgctagctc cagctgggga cgagcgccta gaagccctcg 18660
tcctgacggg atggggcgag gcgtgcgtca gatcgcctgt cgccacctaa cccgcgatct 18720
gaccggtctg tgactggtca cagaccggat aaacgagtgc actgcacttc gttacatgcc 18780
gcgtgacacg ctcagccaaa ccgcaataaa tgtggttagg tgagccccgc tgtgctcacc 18840
taacccatac acgcggagca aaaacccacg aggggtcggg gcgcctcggc cctcggggcc 18900
gaggcgggtg cggtccgacc ccctcggggg gactaagagg agggcgaaca catcaccctc 18960
gggcccgacg tcccccgagg gtgccaggcc acgtgggcga ttgtgtctgc ctcaaacctc 19020
tagtcatgat actcctgatc ccatgtcacc gacagtagcc cccggcgtta tgccagggcg 19080
atcgccctct ttaagggaag cggtcgggcg tgacgccact cctaaggcct ggtgacaggt 19140
gggaccggtc tccacaattg ggcagaaacc caacggtcac aaatcacgca catcggcaat 19200
ggtaactcta ctatcaataa tgagcggtct cttcaagact gccacattac tcgagtagca 19260
cacgaatctg gacatggcga ttcgtttcgt ctggagatat ggtaacgtcg ctttggtcgg 19320
cgagcgtaat taacgcgcgc acgatatgat ctatctcgac tgccacaacc gcatatccac 19380
ctcatgcgcc gcaagcgggc gaatgggatt agtggaagcg tgggcgcgag aaacgagggg 19440
gcgaaatagt gggcgcgaga agcgaggagc cgggcacagc gttggcaaga gtataaaggc 19500
actgaggaaa ggatctgttt ccttcctttc gccatcattt cccttgtctt cgccgcttgc 19560
gccctaactc cttctttcct gtgctctact ttcgccacac gcgctcgctc tcaatcttct 19620
cttcctccgg cgccatggca cgggggctccg ctctgctcga tggtagcgtg ctgccgcctt 19680
cccgcatcgt gagcgagagg caggctgggc tgccgcgccg cttcatgccg gaatctgcca 19740
ccggccggga gatagtcacg ctgggtgagg gacgcccggc gccagactac ccggggcggt 19800
ccgtcttctt tctccccttt gcaatggcag ggctggttcc gccatttтct tctttcttca 19860
tggatgttct gaagttctac gatctccaga tggcgcacct caccccccaac gcggtgatga 19920
cattggccat cttcgcgcat ctgtgcgaga tgttcattgg ggtgcgccca tctcttcggc 19980
tgttccggtg gttcttcacc gtgcagtcgg tgtcgccgcc atcggtagtt ggtggctgct 20040
acttccagcc atggggggccg gtgctgaatc gctacatccc ctgcgccctc cgcaagaagt 20100
gggacgactg gaagagcgac tggttctaca ccccccctcgc cgacgaagcg cgcctctgac 20160
ttccgagcca gccccccggcg caggcctcca gctggcgggc gccggtagat ctgggggatg 20220
gctatgacgc cgtcctcgac cgcctggcgg gcctacgatc ccagggggctc acaggggcca 20280
tggtgtacgg cgactacctc cgtcgtcgga ttgcgccgct ccagcggcgc gctcggggcg 20340
cctgggagta caccgggtcc gaagactaca tgaggaccca ccagggagtc agatgggact 20400
gggctcctga ggatttcaag atagtggtcc aacgggtgct gaatctcaac tccatggagg 20460
cgtccctcat tccccaagga atcctccctc tctgcagcga tccagaccgc gcctccatcc 20520
tgaccattat gacggcggtc ggggcctcag aggagtgagc tccaaagggc cacgacggcg 20580
caggcgggag ccgtaggggg gatcaatcta ccccgggagg gggtcgtgct tctgggtctc 20640
gcgacggagg cccgaggagc agccgccctg ccgacgcccg ggggaagagg aagcagggag 20700
gaacacctcc cccatctcct ccccgagggg gcgggggcggt gcgtgccaac agcaggcgcc 20760
cggaggggggc cgcgccgaca tcgcagcccg aggggggagcg caagaagaag cggctccgca 20820
agatggggga gacagaacca tctcggggaa accttatttc ccctccaaag tggtcgttta 20880
accgaccccc tcgcaggttc gtctctcacc catcgtggct gtattcattc tctcaacgcg 20940
agttttcact cacccatctt gttcgtcttc tggtcttttc ttctgtttca gcgagatccc 21000
gtcgcgtccc tcccgccatt ccaagtccgg ccagtctgag gccgaggatc cggcggccgc 21060
agaggcccgg aggcgggaat ctgaccggcg agaggccgcg gatcgcctac gggaagccga 21120
ggaggccgcc caggaggccg cccgggctcg ccaggcgagg gaaaccgctc gggaggaggc 21180
cgcccgggcc cgccaggccg aggaagccgc tcgggaggag gccgcccgag cccaccaggc 21240
cgaggaagcc gctcgggaga aagccggatt tcgccaggac gaggcaatgg cgacttccga 21300
ggcagctcgc gatgaggtcg cgggcgcgtc gcttgagccc gcttcctcgg gcgacgctca 21360
ggcgacaact tccggggcag ctggcgacga ggctgcgggc gcgtcgcttg ggcccactcc 21420
ctcaggcgac gcccaggacc aaccaggtct gagggacatc cccgagtccg gcacttccat 21480
```

38

```
cggcggcccg agccgcgtgg catcctctcc aaggcggctc ttccccacgc cttctatcgc 21540
cccgctgagc gcagagcccc ttctgcaggc cttggccgcc gcaaacatcg cggtgttgga 21600
cgggcttagt gcccaggtgg aggccctgca agcagagtgg gcggagctcg acgccgcgtg 21660
ggcgcgtgtc gaggaggggc ggcgctcagt ggaggccatg gtggaggtgg gccgcaaggc 21720
acaccgccgg catgtctcgg agcttgaagc ccgtaagaag gtgttggcgg aaatcgccaa 21780
ggaagtggag gaggagcggg gggctgccct cattgccacc agcgtgatga acgaggcgca 21840
ggacaccctc cgccttcaat acgggagctg ggaggcggag ctagggaaaa agctcgacgc 21900
cgcccagggg gtgcttgacg ttgccgctgc ccgagaacag cgggcggggg agaccgaagc 21960
ggcgtcccga cggcgcgaag agacccttga ggcgcgcgcc atggcgctgg aagagcgcgc 22020
ctgcgtcgtg gagagggatc tggcggaccg cgaggccgcc gtcactatcc gggaggcaac 22080
actggcggcg cacgagtccg cctgtgccga agaggagtcc gcactccgcc tccacgagga 22140
cgcgctcacc gagcgggagc gagctctcga ggaggccgag gccgcggcgc aacggctggc 22200
ggacagcctg tccctccgcg aggcagcgca ggaggagcag gcgcgccgca ctctggaatg 22260
tgtccgcgcc gagaggaccg cactaaacca gcgggccgct gacctcgagg cgcgggagaa 22320
ggagctggac gcgagggcgc gcagcggcgg ggcggctgcg ggcgaaaacg acttagccgc 22380
ccgcctcgct gctgccgaac ataccatcgc cgatctgcag ggcacgctaa actcgtccgc 22440
cggggaggtc gaggccctcc gcttggcagg cgaggtaggg cccggcatgc tttgggacgc 22500
cgtctcccgc ctagatcgcg ccggtcggca ggtgggcctc tggagagggc ggaccgtaaa 22560
gtacgccgcc aaccatggag gcctcgccca gcgcctctcg aagatggccg gggctctcca 22620
acggctcccc gaggagctcg agaagacaat taagtcatcc tcgagggacc tcgcccaagg 22680
agcggtggag ctcgtactgg cgagttacca ggccagggac cccaatttct ctccatggat 22740
ggcgctggat gagttccctc ctgggaccga ggacagcgcg cgcgcaggtc cgggatgccg 22800
ccgaccatat cgtccacagc ttcgagggct cagcccctcg gctcgcgttc gcccccaact 22860
ccgacgagga ggacaatgcc ggtggtgcag acgacagtga cgatgaggcc ggcgacccgg 22920
gcgtatcgga ttgatccccc aagcccccgc cattcttcag ttttttcttc ttttccttct 22980
tctaaggcct tcgggcctct tttttgtata gatcaactta atctgtaatc aaaaatgaag 23040
aaattttgt gtcaatttca tcttgctgtg tgtatgagat gaggatgatc tgtgacgtgg 23100
tccttttgcg tcttagcttg attaagggct cgtgcccagg tcccagtcct caaaaggcgt 23160
gggtcggggc tagtgcctgg ggagatccac atgtcgagac tggccaggcc gggaacgtgg 23220
tgaccgaggg ttatgggtga cccgattgtg ggttttgccc gattcccccc cggagttcac 23280
cacgccccgg ggcacggctc ggttctgggc cccgtttggc gatttttagcc gacccgagcc 23340
cccgagggca ggattgagca cgagtgacct atttcaagtc aagattcttc aaaaggaaaa 23400
aaaaacacag atacagcctt taggaaattg aaactgcttt tattgaaata ctgaaataag 23460
agaaataaga atgtgcatgt gtggcagccc ccggccaacc ctgcacgccc gagggggtgc 23520
ggggttggcc cgagcccgaa acctgacacc cgaccccccc cctcaggggt agaagcgacg 23580
aaggtgttcg atgttccacg ggttaggcag ctcaatgccg tcgcccgtgg ccagccgtat 23640
ggagcccggc cggggggacgc cgaccactcg atacggaccc tcccacattg gtgagagctt 23700
gctcaatcca gcacgcgttt ggacgcggcg taggacgagg tcgtcgacgc agagtgatcg 23760
ggcccggacg tgacgctgat ggtagcgccg caggctctgc tggtagcgcg cggctctgag 23820
ggccgcgcgt cgccttcgct cttccaagta gtcgaggtca tctctgcgaa gctgatcttg 23880
atcagcctcg cagtacatgg tggcccgagg agacctcagg gtgagctcgg atgggagaac 23940
cgcttccgcg ccgtagacga ggaagaaagg cgtttccccg gttgctcggc ttggtgtagt 24000
tcggtttgcc cagagcaccg ctggcaactc ctcgatccat gaatcgccgt gcttcttgag 24060
tatgttgaag gtcttggttt taaggccttt gaggatttct gaattggcgc gctccacttg 24120
gccattgctt ctggggtggg caggtgaggc gaagcagagc ttgatgccca tgtcttcgca 24180
gtagtcgccg aagagttcac tagtgaattg ggtgccatta ccgtaataa tacggttagg 24240
cactccaaac cgggccgtga tgcccttaat gaatttaagt gcggagtgct tatcgatctt 24300
gacgaccgga taagcctcgg gccacttagt gaacttgtcg atcgcgacat acagatactc 24360
aaacccgccc ggggcccgcc taaacggtcc caggatatcg agcccccaga cagcaaatgg 24420
ccacgaaagt ggtatggtct gcaggcctg ggccggctga tggatttgct tggcgtggaa 24480
ttgacacgct ctacatcgcc ggaccaggtc gaccgcatca ttgagagctg tcggccaata 24540
gaaaccctgg cgaaaagctt taccaaccaa ggtgcgcgag gcggagtggg ctccgcattc 24600
gccttcatgg atatcggcaa gaagcacaac gccttgttcc cgaggaatgc acttcaggag 24660
gattccatta gccgcgcgcc gatagagggt cccttctacc agcacgtagc gtttggagat 24720
gcgatggacg cgttcactcc cttcgcggtc ctcgggtaaa gtcttatctg tgaggtatgc 24780
ttggatctcg gcaatccaag caatcaatct aagggagctg ggagcgctcc cctcgggtcc 24840
cgaggcctgg acttcaacgg gcctcggggg ccggtcaggc gcgtccgtct cccctaaggg 24900
```

39

```
gtcgggtcgc gccgacggct gggcaagcct ttcttcaaag gcgcccggtg gggtctgggc 24960
tcgcgtggac gcgagccgtg agagttcgtc ggcaatcatg ttatcccgtc tgggcacatg 25020
ccgaagctca atcccgtcaa aatggcgctc catacgccgt acttggcgca cgtaggcgtc 25080
catctgcggg tcagagcacc ggtactcctt acagacttgg ttaacgacca gctgggagtc 25140
gcctaacacc aggaggcggc ggatccccag tccagctgcc actctgagtc cggcaaggag 25200
tccctcgtac tctgccatat tgttggtcgc tcgaaagtcg aggcggacca agtatctgag 25260
gacgtctccg ctcggagagg tcaacgtgac ccccgcaccg gcgccctgaa gagacaggga 25320
gccgtcgaac tgcattaccc agtgggcggt gtgaggcagc tgcgaggggt ccgtgctggc 25380
ctcggggatt gagacgggct cgggagccgg ggtccactct gccacaaaat cggcgagagc 25440
ctggctcttg atagcgtggc gtggttcaaa gtgcaaatcg aactcagaaa gttcgattgc 25500
ccatttcacc acccgtcctg taccgtctcg attatgcaag atttgaccga gggggtaaga 25560
cgtaaccaca gtgacccgat gcgcctggaa ataatggcgc agtttcctcg aggccatcag 25620
aatagcgtaa agcatcttct gggcctgagg gtatcgggtt ttggcgtccc ggagggcctc 25680
actaacaaag tagacgggcc gctgcacctt tcggtggggc cgatcctctt cgctaggggc 25740
cgcatccctg gggcactctt cgtccaagca gcctcgcggg gcgcacttgt cttctgtgct 25800
gatgacctcg gggtcggagg ataacagggg cggccttccc acagtggctt tggggccgtc 25860
ctggggggtca ggggctcctg gcgtcgtcgg acaagcgggc aaagggccaa ctccggtcgt 25920
cagggggcctt aggcctccgt tcggctcggg ggcctcttct ccctgctctt tcccgggtcg 25980
agtcagcaca gggttagcct cggggtcaaa gggcgatagg tgcggccttc ccacagtggc 26040
ctcagggcct tcctgggggt cgggggctcc tagcaccgtc tgacaagcgg gcagagggcc 26100
aactccggtc gtcgggggcc tcgggccacc gttcggctcg ggggcctctc ctccctgctc 26160
tctcccgggc caagtcggca caggtgggg aagcgcgaaa tgagaattgt cctcatcgcg 26220
ctccacaacc aatgccgcac taactacttg cggggtcgcc gctaagtaga gtagcaaggg 26280
ctcgtctggc tccggggcga ccagaactgg gggagagctt agatacgcct tcaactgggt 26340
gagggcattt tcagcttcct tcgtccaggt aaacggtccg gagcgtttga gaagcttaaa 26400
taagggtaac gccttctctc ccagcctcga tatgaaccga cttagggcgg ccatgcaacc 26460
ggtgacgtat tgcacatccc taagtttgct gggggggcgc atccgctcta tagcccgtat 26520
cttctcgggg ttggcctcaa tgccccgggc agagaccaag aacccgagaa gcttgcccgc 26580
aggtacaccg aacacacact tatcggggtt taattttatg cgggcggagc ggagactctc 26640
aaaagtttcc gctagatcta tgagtaacgt ttcctggttg cgcgtcttta caaccaagtc 26700
atcgacataa gcttcaatat tacgtcctaa ttggctaccc aaagaaattc gagtagtacg 26760
ttgaaaagta ggacctgcat tctttaaccc gaagggcatt gtcgtataac aataggttcc 26820
tatggggggta atgaacgcag tttttttcctc atcctcccta gccatgcgaa tctgatggta 26880
accagagtat gcatctagaa aacacaaaag gtcgcacccc gcagtggagt cgacaatctg 26940
atctatgcga ggcagggggt aaggatcctt aggacatgcc ttgttaaggt cggtgtagtc 27000
gatgcacatc cgaagcttgc cgttcgcctt gggaacgacc accgggttcg ctagccactc 27060
ggcgggggttg acgctgccat catattttc ggcgatggtg ggccggaacc ttggggggcca 27120
acggacattc cgaagactcg ccacaaaggc tctacagccg acaccaccaa ccggggggcac 27180
ggagggctga ttcccgcgtc cgtgttgagg tgacactctg gacgaggaag cgccctccgt 27240
tgcgtgggca gcacttcggt cattacgccg gcgctcgatg ctggtgcggg cgtccggccc 27300
cccacgcaga tctttctggg tcgaaggagt cgacgaagga gtggcggccg aatggcgaac 27360
agcggctgcc gctcgtcgtg ccctccgtct tgacgacgcg gagccggtgg tagcagcacc 27420
agaggccttg gtggcggagg accgcccacc agcatctagg cgctgccgta ccgtcatgac 27480
taatttggcc acgtcgtcca gccatcgttg ggctggagac tccgggtcag ggacgacagg 27540
cgggtgacgt aagagcgcgc ccgcagcttg gagcgcgccc tggggcgtgc tgccgtcgcc 27600
gtagacgagg aggcgacgct ccccatctcg ccgttcttct ccatcgcccg cgatcggtga 27660
agtcgcggat ctttcgaccc tctcgagcgc ctcccccgc ttaggacttt ggcgtggagg 27720
gagcggtgga gtacgagctc gacggcgtgg gttcggctcc ccgtcgtcgc cactcacact 27780
cggagagagg tcgtgcgcct ttgcttgctc ggccatcagg ctgaacagga aaagcttggc 27840
gcacacggaa gagtacgaga gctcagaaaa acacacactg agtcccctac ctggcgcgcc 27900
agatgacgga gcgtgggggct cctcaccggg agaccgcgca ggccccccctt tgccggttcg 27960
gccggggact cagggtgaaa ttctaagctc tctgtatgtg gaaggttcgc gaccgtcgaa 28020
agagcataag acacggcgga tgtatacagg ttcggccgc tgagaagcgt aatacccctac 28080
tcctgtgttt tggggggggatc tgtgtatgaa ggagctacaa agtatgagcc agcctctccc 28140
ttgttctggg ttccgaatct ggaaaagtcc agtccagtcc cccctctaa gtgggcaagg 28200
tcctccttttt atatcttaag gggataccac atgcaccatc tccctccttt ctgtggggac 28260
ttaccctacc ttttcataaa tggacggaga tttgtatagt tgccgtccga atgaccttct 28320
```

40

```
gataggacgg cccatacccta cctccacttc cgccgaaagc aggtgcgacg tgggattatg 28380
gctgtctgct gacgacatga ccagtgtcag actggtcaca aattgctcat tcctgtccac 28440
cacgcgtcag tttagcaatc tacatgttgg cccttcttca cacaacatct tgcctgtaat 28500
ggttaggatg aagcctggca tatatctaac caggactaac gtgccatctc taggaggtaa 28560
cacgctagct ccagctgggg acgagcgcct agaagccctc gtcctgacgg gatggggcga 28620
ggcgtgcgtc agatcgcctg tcgccaccta acccgcgatc tgaccggtct gtgactggtc 28680
acagaccgga taaacgagtg cactgcactt cgttacatgc ggcgtgacac gctcagccaa 28740
accgcaataa atgtggttag gtgagccccg ctgtgctcac ctaacccata cacgcggagc 28800
aaaaacccac gaggggtcgg ggcgcctcgg ccctcggggc cgaggcgggt gcggtccgac 28860
cccctcgggg ggactaagag gagggcgaac acatcaccct cgggcccgac gtcccccgag 28920
ggtgccaggc cacgtgggcg attgtgtctg cctcaaacct ctagtcatga tactcctgat 28980
cccatgtcat cgacaaggcc atccgaatgt attaaggagt aaaagttaca agaaaaaaca 29040
ccacaatgca ccaaggtgca tgaccacaca ccatacacta cccccaagca caaaccactg 29100
agggtgaagc ctagcaccaa acgaccgcca ctaagtgtga ccaaacgccg ctaggcctac 29160
ggcagcaaca catagatgag acttcgaaaa cgatgccacc aaggtggtca cgacatgtag 29220
gatgctgcca tcgtccatct aaaaagatgt ggttttcacc cagagaaact catcaagaag 29280
gggagagggt aacccttgac agcgccccaa ggaggttacg acgcccgaag gcgtagccgc 29340
tgccggtccg gtgaaccacc ggactaggct tccgcctagg accctatagc cttgatcgca 29400
gatcaccgtc caccactcag aaccaccaca cagacaaaag gtagcacgta gcttccaccg 29460
caccgcaccg acgcccttc gtcggccgac tccatcgaac caccatccct gagagctggc 29520
ccaggacccc tccgttccac cacccgccgg ccgccttgcc agttttggcc aaaggagaac 29580
ccgggactgg gtgacattgc ttcggcagcc tgagcttccc ccgctggcga gctgctgtct 29640
caatccaacc tagaaactcc ccgcaaaaga aggggatgag ctctaggaag ggcgagggtg 29700
ccgaccggca acgaggaaga caacccatcg actccagctc cctttgcact accatctggg 29760
cctgcgccaa tgccggatac gctgtcgctc cggctccggc gccacccacc tgcaccccct 29820
ttgcctggtc tccgcgcccc tcctggctgc gtcgcgccgc ccagctggcc gctaagggca 29880
ccacgacggc cgcccggcta ccgaggcctg ccgcgccat gggacagctc gcgctggcac 29940
cagcgagcca cggccgtcgc gctgttgccg gcgccagcga gcacaaccgc cagctccaag 30000
ggccgagcat gccactgagc cgccgccgct gccgcccggg ccggctgcac gtcaccggcg 30060
cacacgaccg cacgccgcca cgctccgcct ccgcgcccga ggcagcccca tgccattgcc 30120
gcgcacctcg cccgcccgct gccgagccgc caccgcgcac cttgctgagc cgccaccgcc 30180
gtccctagcc gcctcgtgcc gccgccacgc cagatccagg cgcgggatgg ccggatccgg 30240
ccttgggggc gccggatccg ccgcctcccc acaccgccac ggcgtcacca cctccgaccg 30300
cagtgagggc ttcgtcgttt gccccatcct catcgcgtcg aggaggaaga cgccaagaaa 30360
aaagggcctc gccgctgcct tccttgctcg ctgccggctt cgccgccggc gagctccggc 30420
ggcggcgagg tgggggagaa gaagtgggga gtgggcagct agggtttttt cgcccccaa 30480
gccgcccgtg cgagagcgac ggtgggggggg ggggactttt ccaacctctt ccagtgttct 30540
agttctccac gttatgtaac tcaatttgtt taaccataga aagtaagaaa cctaccagcg 30600
tgttaagctc tctttcattc cctttcttct tcctggtttt gcttccatca catgtcaagt 30660
gaagggttct taactaccat tactcctaca catctaattt ttttctcaga tctttcgcag 30720
gtatatattg atgctacatt ttatgatctt aagataatct ccttcacatt accctctgct 30780
gaaactttag cttgaaccgt catcttcacc acaatttgag cccaatttgc acagagcaca 30840
acgagcaata gcttgccctt acgttcatta tttagcatga actactacta actacccaag 30900
aatcaataca ccggtttaat aacgccattt tatcacgtta atatatgttt cattcaacac 30960
accggttttg gcacagttgc aaacttgcaa taaattcttt cctacttctc catcccataa 31020
tataacaaat tggtatgtct cgtctggtac taagttgcta tattatgaga tggagggagc 31080
acttcttttc ttccaaaata taagaatata gtattggatt agatattatc tagattcacg 31140
aattcgatta ggttgtctag atttatagtt gtatgtaatg tataattcgg taataggtta 31200
ttacctctcg ggatggaggg agtagttttg actttttttt ttcttataaa tcgctttgat 31260
ttttatatta gtcaaatttt atcgagttta actaagttta tagaaaaaaa ttagcaacat 31320
ttaagcacca cactagtttc attaaattta gcatggaata tattttgata atatatttgt 31380
tctgtgttaa aaatgctgct atatttttct ataaacgtag tcaaatttaa ataagttaga 31440
ctaaaaaaa tcaaaacgac ttataatatg aaatggagga agtagtagac tataacaaat 31500
ttaaaccgtg ctttgatttt agagcatcac taatatgtta gcaataatct atccctaaaa 31560
tttatttttt ttcctaaact gaaaatagga agtggaaata ctcctccatc taagagagag 31620
cctaaattca ataaaaaact aaaaaactaa aggtggatcc ctctattaaa ctaccgcaaa 31680
aaatttatgt ttttttctc ttccacgcgc gcagaacaga tatctcgatc aagttagcat 31740
```

41

```
gtaaaatttt taaagagata ccttatacga ctccttccgt atttccaaaa gcaaacggat 31800
ttaaaatctg actcaaataa agatctatat atccaattta catgacacat gtttcgccga 31860
atttttatat taataataat taatattttt aaaattaaat tattagcaat ttgtttggag 31920
gatttatcaa aacaggatgg acgttgttta taacagcgtc tagacctaga cgcgcttgca 31980
aactgcggcc acccttttat cacacaaatt tttgacaatt tgacactttc caaaaattaa 32040
ttttataaat taaccgtgac caaaacttat ttaaaaataa tcttttttgtt gagcgcaaaa 32100
tcgtatactt cagcgccaaa tagcacggcg ccgacctccc ccttcccctc ccctctatcc 32160
tccactgctg ccgcccacct ctccgtatca gctgcgtcgc gttggtttcc gccggcgctg 32220
ctgctgctgc accagtccgc tagggcgggc gggcatggcg cgccgcgccg cttcccgcgt 32280
ccgcgccggc gctgttggcg cccttcgctc ggagggctcg acccaagggc gaggggggccg 32340
cacgggggggc agtggcgccg aggacgcacg ccacgtgttc gacgaattgc tccggcgtgg 32400
caggggcgcc tcgatctacg gcttgaactg cgccctcgcc gacgtcgcgc gtcacagccc 32460
cgcggccgcc gtgtcccgct acaaccgcat ggcccgagcc ggcgccgacg aggtaactcc 32520
caacttgtgc acctacggca ttctcatcgg ttcctgctgc tgcgcgggcc gcttggacct 32580
cggtttcgcg gccttgggca atgtcattaa gaagggattt agagtggacg ccatcgcctt 32640
cactcctctg ctcaagggcc tctgtgctga caagaggacg agcgacgcaa tggacatagt 32700
gctccgcaga atgacccagc ttggctgcat accaaatgtc ttctcctaca atattcttct 32760
caaggggctg tgtgatgaga acagaagcca agaagctctc gagctgctcc aaatgatgcc 32820
tgatgatgga ggtgactgcc cacctgatgt ggtgtcgtat accactgtca tcaatggctt 32880
cttcaaggag ggggatctgg acaaagctta cggtacatac catgaaatgc tggaccgggg 32940
gattttacca aatgttgtta cctacagctc tattattgct gcgttatgca aggctcaagc 33000
tatggacaaa gccatggagg tacttaccag catggttaag aatggtgtca tgcctaattg 33060
caggacgtat aatagtatcg tgcatgggta ttgctcttca gggcagccga aagaggctat 33120
tggatttctc aaaaagatgc acagtgatgg tgtcgaacca gatgttgtta cttataactc 33180
gctcatggat tatctttgca agaacggaag atgcacggaa gctagaaaga tgttcgattc 33240
tatgaccaag aggggcctaa agcctgaaat tactacctat ggtaccctgc ttcagggggta 33300
tgctaccaaa ggagcccttg ttgagatgca tggtctcttg gatttgatgg tacgaaacgg 33360
tatccaccct aatcattatg ttttcagcat tctaatatgt gcatacgcta acaagggaa 33420
agtagatcag gcaatgcttg tgttcagcaa aatgaggcag caaggattga atccggatac 33480
agtgacctat ggaacagtta taggcatact ttgcaagtca ggcagagtag aagatgctat 33540
gcgttatttt gagcagatga tcgatgaaag actaagccct ggcaacattg tttataactc 33600
cctaattcat agtctctgta tctttgacaa atgggacaag ctaaagagt taattcttga 33660
aatgttggat cgaggcatct gtctggacac tattttctttt aattcaataa ttgacagtca 33720
ttgcaaagaa gggagggtta tagaatctga aaaactcttt gacctgatgg tacgtattgg 33780
tgtgaagccc gatatcatta cgtacagtac tctcatcgat ggatattgct ggcaggtaa 33840
gatggatgaa gcaacgaagt tacttgccag catggtctca gttggaatga aacctgattg 33900
tgttacatat aatactttga ttaatggcta ctgtaaaatt agcaggatgg aagatgcgtt 33960
agttcttttt agggagatgg agagcagtgg tgttagtcct gatattatta cgtataatat 34020
aattctgcaa ggtttatttc aaaccagaag aactgctgct gcaaaagaac tctatgtcgg 34080
gattaccgaa agtggaacgc agcttgaact tagcacatac aacataatcc ttcatgggct 34140
ttgcaaaaac aatctcactg acgaggcact tcgaatgttt cagaacctat gtttgacgga 34200
tttacagctg gagactagga cttttaacat tatgattggt gcattgctta aagttggcag 34260
aaatgatgaa gccaaggatt tgtttgcagc tctctcggct aacggtttag tgccagatgt 34320
taggacctac agtttaatgg cagaaaatct tatagagcag gggttgctag aagaattgga 34380
tgatctattt ctttcaatgg aggagaatgg ctgtactgcc aactcccgca tgctaaattc 34440
cattgttagg aaaactgttac agagggggtga tataaccagg gctggcactt acctgttcat 34500
gattgatgag aagcacttct ccctcgaagc atccactgct tccttgtttt tagatctttt 34560
gtctggggga aaatatcaag aatatcatag gtttctccct gaaaaatata agtcctttat 34620
agaatctttg agctgctgaa gccttttgca gctttgaaat tctgtgttgg agttctttc 34680
tcctacagtt gtattagagg agggatcttc tctttatgtg taaatagcga ggtatgtatg 34740
tcacctctcc gaattatttt tactctggtt cctagacggt aaacaagcaa ttatgttctg 34800
cctttgatgc cagaaaaaac acaaaagttt gtcgttatct ctactaacgg atcataaagg 34860
aatttgtaac tggagtttca aacttaattt gtctaggcag tagttttggc attagatcca 34920
acattgtgta ggattcattt gtgtgtatca atctataggg tttcattaaa tttcgttaat 34980
gtgtactgtt taggtgttga atagtttgac ttgttttta actgaacaaa agatactgaa 35040
atcgttccat tcaacaaaca catgttccgt taatgaaatt attgtacgtt accttttgtt 35100
ttcttactca caagtgtcct cttttcttat atcctataga ttggtacaac aaattattga 35160
```

42

```
ttcaattttg gttttgaaca ttgatgatcc tccctgcact attggtgcag ctgctcttct 35220
attcattttg tgaagtgatg tgagtacctc tcaatcccat ccttatgctt ctgtgcatgc 35280
ttcattccaa tttttacgc atatcgattg ttttctttta tataacagtc cataaagata 35340
atcacatcat gacaaagtta tttatttcta cagtatagtt atataagtat tcaccagttt 35400
tccatgaata ttttggcatg tgattacaaa gaagattatt tgagaaaatc catgctttta 35460
tttcatcttt ttgtttgaag ttgaactttta atttatggtg taaatttcag ttattattgc 35520
tagcagctcg tactctttaa tggtataact tcacttgtgc ttattctcca atatctccct 35580
tcttgttgtt caggttcaag aaaatcattt gttggattca gaatctggtg tccattttct 35640
tcttaaatta ttaaatcctc cagtgaatct tgttgattcc aaagcaccat cgataggttc 35700
caaacttctt ggaatcagta aagttcaaat gcttaatgga tcaaataagg attctgactg 35760
catttcagag gaaatccttt caaaagttga agagattctc ttaagctgtc aagtgatcaa 35820
gtcgctcgac aaagatgaca agaaaacaac aaggccagaa ctgtgtccaa agtggcttgc 35880
tttgttgaca atggaaaatg catgcttgtc tgctgtttca gtagagggta agttttaatc 35940
aaatttcttg gtcatgattt ccctttatga ccattatatt tatttatatg agccaaataa 36000
gcagttgtca acttgtcata agttacatag cacctatttg caatattcat gggtggtttg 36060
cttagccctt ttcttcacct gcttttgatt gatgacttcc atctgtgttg cagaattgaa 36120
ttggagtagt ggactgcact agaagcacct atggccattg tcatactagg aaggttttcc 36180
cttatcaaat atttgattgt tacagagact tctgacacag tgtccagagt tggaggaaat 36240
tttaaagaga cattaaggga gatgggaggt cttgatagta tttttgacgt tatggtggat 36300
tttcattcaa cattggaggt gagatctcgc taacatcgca tattttacat ttcctttgtt 36360
caactctaat ggattgtgca ggcttgttcc ttttcgccat tttagcttta atgtgcttga 36420
agccacatga aagtaatgct tgtccagata catagccaaa ggttgttata ttttggggca 36480
tggaaaatgc ttgaggtagt aactattttc atcaggacat ggaaaattgg ctgcaacaca 36540
aattatgttg ttttatgttg caaaaatagt tttttaatac tttttattc tgcatgtggt 36600
gttagtatct tacagttcct ctgatgatta tatcccccac gataataaca cttgaaacga 36660
taataacact tgacatatct acaccaagtg aacattattc atttggatgt tacttttcca 36720
gctatacttg ctgttcttgc atgtgtaagc aagtttggag taaattgcgc attaatttaa 36780
atgcttggtg ttcctatctg tgtactttt attccccaac taataatgca atcatattac 36840
gctgataaac tgaataaaata aattaacaat atacttctgg tggcaaacct tgtgtatcag 36900
aatctcataa aggatacatc cacttcagct ttggaccgaa atgaaggaac atctttgcaa 36960
agtgctgctc tcctcttgaa atgtttgaaa atattggaaa atgccatatt tctaagcgat 37020
gataacaagg taatgctcct tatatgttct gtttcagttt agtacccatt tccttcttct 37080
gtactatctt ctctcctgat ttgttctgtg caaaatgtgc aaacagtgcg actttgtatg 37140
tctgcttaac aattttcttt tcttcctgaa aaagcaatat gaactcttac attcattttg 37200
cttcttgcag acccatttgc ttaatatgag tagaaaattg aacccgaaac gctccttgct 37260
ttcttttgtt ggtgtcatta tcaatactat tgagttatta tcaggtattt ttcttaataa 37320
tacaatgtgt tcgctaacac aataaaatgt tttaaacatc cagtatgtta aagttgcagt 37380
ctgacgccta tttttgttttg ctgcagctct ttcaatactt cagaattctt ctgttgtttc 37440
cagctctaca tatccgaaat cgtctaaagt ctctcaacag agttactctg gtaataacaa 37500
acaccaattt tgtttgatca gttgatctcg ttggcttttc tatgcactgt ctcaatatag 37560
tttggtcgcc attcaagtct cactacagat gttgaacttg gcctgacacc aaatatttat 37620
aaaatgctac ctgatatttt taatatttca tgtttcctga cccagattat cttgttggtt 37680
cctcgtataa gtttaattag tgacattctt gaagctttgt tatgcagcag atgtcatggg 37740
gggaacttca tttaatgatg gaaagagcaa gaactcgaaa aaaaaaaact tttgtcgaac 37800
cagacacgtc attgttgctt atcttcaaaa tcagaagttt ctcatattac tatatcttct 37860
ggtagtgatg ctggtctgtc acagaaggca ttcaattgtt ctccatttat atcaagcaat 37920
ggggcatcaa gtggttcatt aggcgagagg cacagcaatg gtagtggttt gaagttgaat 37980
ataaaaaagg atcgtggcaa tgcaaatcca attagaggct caactggatg gatttcaata 38040
agagcgcaca gttctgatgg gaactccaga gaaatggcaa aaagactccg tctatcttaa 38100
aatgtaatca ccgacagtgg tggtggtgat gaccctttg catttgaccg ccgcgtcggc 38160
gtcgccacca cgtaatcgcc cacgtcgctg cccccgctgc cacgtcgtcg accgcgcacg 38220
gtaatcacac gcatctcgag ccgccgcta gctgatatct tctcatccgg ttgatttgtg 38280
attttggcgt ttttgcagtg gtgatggcgg ggggcgaccg tggccgaggc gtggagtgcc 38340
atccgcatca gggtgtatcg gccgcgctgc tccgccctgg tccgcaggct ttggcggcga 38400
gctggcggcg gagggagact gtggtgagat cggatttcgc cgctggtggt gtcgctacca 38460
tggggggattc gccgcaggcg ctctcaggtt tgcagcctcc tccactctct tcccttttttt 38520
atttttttttt ctcgcaaaat gtgttgtgat gttcgtctcg ctgggcaggc ctcatagcca 38580
```

43

```
ttaatgtagt ttgctggaac atttacattt ggaacgttgt tggcaattgc ttgacaaaat 38640
gtggaattgt ggaggggaga aaaatcattt gaacctgcag tgacaaaatt gccatctcta 38700
attttaaaac tgaaggtgtg gaaatcaaac ataatcattg ccagcgcatc attcttgtta 38760
accaccatga tatattgttg gttataacag ttagctccac accaaccttg aaggtgtcaa 38820
tagaatgttt agtataaatt gaggagaaca ggcagttgtt aagactttct aaagaacttg 38880
tagcagctaa tactagctat tgtgcatttg tgtttcatgg aatttgagca gcaatggata 38940
tttcttacta agatgtatga tgcaaaacaa aaaactatgt ctatacagtt tacatgtaat 39000
gtgcggatgc aaataaaatc atgtacatgg acaaactcat gggattcata ccgaattcca 39060
gaattgcatt tcttatgtgg ttacttttgt tgttgatttg gttaccagac atcgatgtga 39120
tttcaagggt cagagggggtt tgcttctacg cggtggctgc agttgcagca atctttttgt 39180
ttgtcgccat ggttgtggtt catccacttg tgctcctatt tgaccgatac cggaggagag 39240
ttcaggaaaa aaatttgaaa atacccattt tttgaaaaag atttacgttt atatacacta 39300
gtatgaagaa tttgcgaaaa tataactaat ccgcagatcg gttatgcggg agcgcaacaa 39360
aagtatggcg tggcggcgcg gagtggacgg ccgaggcgtt cgcgcggaat ggggctgcgg 39420
gaccgagcca gtctcgcttg ccggtaacgc ggaaccggta cgctcccgca gcgccagtgt 39480
gcggaaccgc ggcgccaaca ttttttttact gcatggcact gtgtttaata ctgtttgaca 39540
ctgtttctgg tactgtttta cacagttccc gggtcagttc cgcacaatgg aggcgcggca 39600
ccgaccatga acaatgtgtg aacagtgctg cacagggtta aaacagtgta taaactgcgc 39660
tgcacagtgc tggagtcgct ggccactgcg gttccgcgtt ttggaaccgc gggaccgtcg 39720
cgattccgcg ttttggagct gccggaccat gacggttccg cgcaggatcg tcggtcccgt 39780
attttgaatc tgcggaaccg tcgctgtccc gcgtttccgt ttcgcgggat gcgtatattt 39840
ttataaaacc tctccatgca tgtatataaa cataaattat tgaaaaaata agtatatttg 39900
caaatttttt tcgagagctc agcactacat tgcaaagatt tgggcaactc tgacaatttc 39960
catgttctac aagcttgacg tcgagggaat ggagaacctg ccaccgaata gtagccctgc 40020
tatctatgtt gcgaaccatc agagtttttt ggatatctat acccttctaa ctctaggaag 40080
gtgtttcaag tttataagca agacaagtat atttatgttc cgaattattt gatgggcaat 40140
gtatctctta ggagtaattc ctttgcggcg tatggacagc aggagccagc tggtatggct 40200
gtagtctcat ccctgctttc ttaagtagac atatatgcaa ttacagaatt tggtaaacaa 40260
acaagatttt atgaatcata tatgattttg gggaaaacac caaactctct ttggtggctg 40320
ccttgaacat agttctattc acacagttat agcaccttct ttaaaatgaa gaactttgtt 40380
gcatacacat atggccaaac cacataatga attttgttta tttctatctt tgaatgttag 40440
caccttattt tcatgcatat catgctaatt tgcttgccca cgttgagtgg gaattttttt 40500
ccatgtttta taatttatat atgttctaga cttctagtcc acaatttatc tacttcatgt 40560
tcctgagcct ctagtatggc tggtagcaga ctaggtgctg agtgctgtcc atttttgcag 40620
actgaagaga ggagaaatac aggactgtcc gttgttagtc agatttgtaa aaatagactc 40680
tgatgtagtt tattttagcc cctatttttat atttaacaat acaaatatat aacgtatcct 40740
aagaacttat cgtaatttag gagaagttgc tcgtttcatt aaattaaact gtgaagtaaa 40800
aatgtgtgct cgagtctgtc aatgcaatcc tgtgttcttg tttgaagata tggtgtaggg 40860
caggctagga tcgaacactg aatggtaaga ctgcttctgc cttcatttgt gcacttggtg 40920
ctgccacgcc gattaagcag tagaacaaag taattttgtc gtgcacaaat gagttatatt 40980
tcattgaaaa tcgaagtgaa aatgaaccaa aagatagaag aaaaggggaa acttggtaat 41040
tatatactcc acaaatttat tggtaagatt tgatattaga cgctcgatta cttggcttaa 41100
gttaaggata tcaaatttgg ggaagcacca aaggaattat tgtgaaggag ttgtgggtgc 41160
ataacgttat ctactaggtt caaatcctag tgactatgaa tattaatgag taaggtaagg 41220
gatttattgt taatttttagt ttctttaaga ttgtgtccgg gtacaccatt cggtaagtgt 41280
aataatgttt tgtattggat tcacttgtgt tacgtgcatg tgatttacct tttcatttgt 41340
ttctgcgttc tgggtatgaa tttgacgaga ttccatggtc agctcaacat atcagttact 41400
gcgtgtcaag cgatcttata tggtatgcgc acaagcgatt gtatacggat atgacagtat 41460
aacgtgtgat attgatacga tgttcctttc ctttataaag gaacaaagac ttttttaaaa 41520
aaaagaaggg gtattactaa aaaccaaaat gtcaaaaaca aaatatcagt gcacatggca 41580
agtgtgcacg agcaatagct tgcccttacg ttcattattt agcatgtact actactaact 41640
acgcaaaaat caattcaccg attattaaac tgttaacatc attttagcac gttaacatat 41700
gtttcattca acacaccggt tttggcacat ttacaaactt gcaaagttgc aatactccct 41760
tcgttacata gcataagaga tttttaggtga atgtgacaca tctatccaaa ttcattatac 41820
tagaatgtat caccgcctcc acgccgggag ggagagcgcc gccggtggag aaaggggggag 41880
ggagtggtcg aggggaacca gtagggtgcc ctccccgtcg ccgcctcccc gtggccgcgc 41940
cggcgagaca ggaggaagag ggggatatgg agcggcgccg ccggtgaggg cgcgcgcgcg 42000
```

44

```
gggggggagcg gcgacgccgg tgaggaaggg aagggggagtg gtggctttga gagagatagg 42060
ggggaggaaa aatgatttta gagttagggt ttgggctgct gagtttttat atagatcggg 42120
atcaatcagg accgtccatc agatcggaca actacggctt ctcccgcgtt gggccgggtg 42180
ccactcctag gttgcccaca ctattgggcc acatgtacgc tccgcgtgaa ataagttcac 42240
tttaggtcct ttaagttgcc tctgaattgt tcccaggccg gccgcactat tgggccaccc 42300
cataggccat gtgtacgctc cgcacagaat aatttcgctt tagctccctt aatttgtccc 42360
ctcaaactcc taaaaccagt gcaaatcttt aatttttagt tcacccattg caactcacgg 42420
gcatatttgc tagtgacata taatatgaaa cgaaggatgt agcagactat agaatttaaa 42480
ctgtgctttc attttagagc atcactaact gttatttaga ttttttattta aataaatgct 42540
gaaatgatgt ttttattatg aaaattagca ataaagctcc caaaatttca aaaaaaaatt 42600
aaaagagatt tattaatcat ggttaattta attaaaaatt aaatctaacc atatcatatt 42660
atttcacggt ccgtgatgag gaaatggcag ctgctatcac ttacggtggg agagaagggg 42720
cattgtttat ttttataact atctcttata actcccatga aactataaaa taaatataat 42780
cattatcata acattagttt ttttttccatt gcaacgcaag ggtaattttt cagtacaata 42840
aaaaaaataa aagtgggcca ttctgaacgg aaatttctgg tttttttttcc caagagcgcc 42900
gcacacaact gcgcaagaga tcgatcgcga tcaccctgct cgtcgccgat ctcctacacc 42960
atccctgcca tctccttccc ctccactggc tgctgctgca cctgtcagct aggcgcggca 43020
tggcgcgccg cgccgcttcc cgcgctgctg gcgccccttcg ctcggagggc tcgatccaag 43080
ggcgagggggg ccgcgcgggg ggcagtggcg gtggcgcgga ggacgcacgc cacgtgttcg 43140
acgaattgct ccgtcgtggc ataccagatg tcttctccta caatattctt ctcaacgggc 43200
tgtgtgatga gaacagaagc caagaagctc tcgagttact gcacataatg gctgatgatg 43260
gaggtgactg cccacctgat gtggtgtcgt acagcaccgt catcaatggc ttcttcaagg 43320
agggggatct ggacaaaatg cttgaccaga ggatttcgcc aaatgttgtg acctacaact 43380
ctattattgc tgcgctatgc aaggctcaaa ctgtggacaa ggccatggag gtacttacca 43440
ccatggttaa gagtggtgtc atgcctgatt gcatgacata taatagtatt gtgcatgggt 43500
tttgctcttc agggcagccg aaagaggcta ttgtatttct caaaaagatg cgcagtgatg 43560
gtgtcgaacc agatgttgtt acttataact cgctcatgga ttatctttgc aagaacggaa 43620
gatgcacgga agcaagaaag attttttgatt ctatgaccaa gagggggccta aagcctgata 43680
ttactaccta tggtaccctg cttcaggggt atgctaccaa aggagccctt gttgagatgc 43740
atggtctctt ggatttgatg gtacgaaacg gtatccaccc taatcattat gttttcagca 43800
ttctagtatg tgcatacgct aaacaagaga aagtagaaga ggcaatgctt gtattcagca 43860
aaatgaggca gcaaggattg aatccgaatg cagtgaccta tggaacagtt atagatgtac 43920
tttgcaagtc aggtagagta gaagatgcta tgctttattt tgagcagatg atcgatgaag 43980
gactaagacc tgacagcatt gtttataact ccctaattca tagtctctgt atctttgaca 44040
aatgggagaa ggctgaagag ttatttcttg aaatgttgga tcgaggcatc tgtcttagca 44100
ctattttctt taattcaata attgacagtc attgcaaaga agggagggtt atagaatctg 44160
gaaaactctt tgacttgatg gtacgaattg gtgtgaagcc cgatatcatt acccttggca 44220
ggtaagatgg atgaagcaat gaagttactt tctggcatgg tctcagttgg gttgaaacct 44280
aatactgtta cttatagcac tttgattaat ggctactgca aaattagtag gatggaagac 44340
gcgttagttc tttttaagga gatggagagc agtggtgtta gtcctgatat tattacgtat 44400
aacataattc tgcaaggttt atttcaaacc agaagaactg ctgctgcaaa agaactctat 44460
gtcaggatta ccgaaagtgg aatgcagatt gaactttgtt agatttaatt ggataattaa 44520
tccatttaaa tcaattaaat caaataaatt ccaaggctca ttatgctagg aattcatgtg 44580
aattcattct tctatgggat atcaatggga tgaagagttt tgagaattaa tccatttgat 44640
taaggaattg gtaacttata tcaattaatc ctaattgatg gatggttgat ggttgtgtag 44700
tggaggatgg ttcatggcta gttgatgaca attagttgct ctattcctct tcctattcca 44760
ttggtaactt acatcaatta ctcttaattg attgttggtt gatggttgtg tagtggagga 44820
tggttcatgg ctagttgatg acaattagtt gctccattcc tcttcctatt ccatgactct 44880
tactcttcat cttccattcc tcttataaaa tgagaatgga tttgatctcc cgcgagaaga 44940
agaagacaca ctttcatcca tttttcaaaag ctgttgctgc tacggtaatc ccatcccgac 45000
gagtgtgtgc acacgcgttg ggagagtagg cctccgaaac cacgcgttgc tgcgacgttt 45060
gcacagacgg gcgggcgatc aggttttttgg ggagcgcaag gcgcgactac tcactgttcg 45120
tcaacatcta cttcatcttc accaacatgt cgaacactgg agacaaggag aaggagactc 45180
ccgtcaacac caacggaggc aatactgcct caaactccag cggaggacca ttcttggggt 45240
ataaccttat tacattattt caattagaag ttttactgtt aatgttcatc gcaatgtcaa 45300
cattgtgtca ttatgtgatt gttgatgctt attcaacgtt aagcatgctc atgttgatta 45360
cattcaccac tatcactgga tcaaatccta ttgtaaatat catgtttatt atcttgttat 45420
```

```
tttggattaa aatatgccga attatgacca aatttccaac aaacttagca catacaacat 45480
aatccttcat ggactttgca aaaacaaact cactgatgat gcacttcgaa tgtttcagaa 45540
cctatgtttg atggatttga agcttgaggc taggactttc aacattatga ttgatgcatt 45600
gcttaaagtt ggcagaaatg atgaagccaa ggatttgttt gttgctttct cgtctaacgg 45660
tttagtgccg aattattgga cgtacagatt gatggctgaa aatattatag gacagggtt 45720
gctagaagaa ttggatcaac tctttctttc aatggaggac aatggctgta ctgttgactc 45780
tggcatgcta aatttcattg ttagggaact gttgcagaga ggtgagataa ccagggctgg 45840
cacttacctt tccatgattg atgagaagca cttttccctc gaagcatcca ctgcttcctt 45900
gtttatagat cttttgtctg ggggaaaata tcaagaatat catatatttc tccctgaaaa 45960
atacaagtcc tttatagaat ctttgagctg ctgaagcatt ttgcagcttt gaaattctgt 46020
gttggaattc ttttctccta cagtccgatt agaggaggga tcttctctgt atgtgtaaat 46080
agcgaggtat gtatgtcacc tctccgaatt attttgactg tggttcctgg actgtaaaca 46140
agctattatc ttctggtgtt gatgccagaa aaaacacaaa agtttgtcgt tatctctact 46200
aacggatcat aaaggggttt gtaactggag tttcaaactt aaggtatcta ggcagtaggt 46260
atatattgat cctacatctt atgatcttaa gatgatatcc ttctcattat cctctgctga 46320
aactttagct tgaaccgtca tctacaccac aatttgagcc ccttagcaca gagcacaacg 46380
agcaatagct tgcccttacg ttcattattt agcatgcact actactaact acccaataat 46440
caatacatcg gttattaaac tgtttgtaca gtttaataat gtcattttat cacgttaaca 46500
tatgtttcat tcaacaccac accggttttg gcacagttgc aaacttgcaa taacattttt 46560
actacttctc cgccccataa tataacaatc tcgttccata ctatattgct atattacggg 46620
acggatgaag tacttctttc cttccaaaat ataagaatct agtcctagat tagatattat 46680
ttggattcac gaatttgatt aggctatcta gatttgtagt cgtatgtaat gtctaattcg 46740
gtaataggtt attacctctt tggatggagg gagtagtttt tatttcgtac tccctctgtt 46800
tcatattata agttgttttg actttttttct tagtcaaatt ttattgagtt tgactaaatt 46860
tatagaaaaa aaattagcaa catttaagca ccacattagt ttcattaaat gtagcatgga 46920
atatattttt ataatatgtt tgtttttta ttaaaatgct actatatttt tctataaatg 46980
tagccaaatt taaagaagtt tgattacgaa aaaaaatcaa aatgacatat aatatgaaac 47040
tgaggatgta gcagactata gcaaatttaa actatgcttt tattttagag catcaccaaa 47100
agagatagcc taaatcttat cttaactaat taaaatattc ataattttcc tttcgtcaca 47160
ttaaattttc gtccgtaaat ccgattgaaa tccaactaga caatccaaaa aatagagaaa 47220
aagaacagaa aaaataataa aaagcacaca aatcttatct caatcccgcg ggaagctgcc 47280
gatgccgccg aatccgctcg agcgccgccg ccgccgctca cggggaacga tgtcgctgct 47340
atcgcacgtg gtatgggagg gcgccgccgc cgctgcttgg gagataggat atggagagag 47400
aaggaaatgt gagggagggt taggtttttc cccattcgta tcttcagcga cacggaggcg 47460
atccaagctg tccatcagat cagacggctc agaacgcctc catcttcagg ccgcgcatgc 47520
ttgatgggcc gagggaaggc cggagggtcg aacaaacgta gtcagaggag gagttggagg 47580
aggtaaagta gaatttattt gcgggctgag atagtaaatg gactgaaaat ggcccataga 47640
gaaattggga attttattta aataaatgtt gaaaaggtgt ttatattatc aaaattagaa 47700
attaagctcc gaaaatttta aaaaatattc aaagagcatt attaatcatg attaatttaa 47760
taaaaattaa atccaaccat atcatattat ttcacggcgc gcagtaggaa aatgcgcagc 47820
tgttgtcgct tacggtggga gagaagggac attgtttatt ttcagaacta tcttttataa 47880
ctcccatgga actttaaaat aaatataatc attattatag cattagtttt tttctgtctt 47940
tttttttcccc aagagcgccg cgcagaagag atcgatcgcg atctccctgc cccgacgtcg 48000
ccggccgatc tctcattctc tccacgccct gctcgtcgcc gatctcctac accatccctg 48060
ccatctcctc cttcccctcc cctctatcct ccactggtgc cgcccacctc tccgtataag 48120
acaaactgcg ttgcggcgtt ggtttccgcc ggcgctgctg ctgcacctgt cagctagggc 48180
gggcatggcg cgccgcgccg cttcccgcgc tgttggcgcc cttcgctcgg acggctcgat 48240
ccaagggcga ggaggccgcg cggggggcag tggcgccgag gacgcacgcc acgtgttcga 48300
cgaattgctc cggcgtggca ggggcgcctc gatctacggc ttgaaccgcg ccctcgccga 48360
cgtcgcgcgt cacagccccg cggccgccgt gtcccgctac aaccgcatgg cccgagctgg 48420
cgccgacgag gtaactcccg acttgtgcac ctacggcatt ctcatcggtt gctgctgccg 48480
cgcgggccgc ttggacctcg gtttcgcggc cttgggcaat gtcattaaga agggatttag 48540
agtggaagcc atcaccttca ctcctctgct caagggcctc tgtgccgaca agaggacgag 48600
cgacgcaatg gacatagtgc tccgcagaat gaccgagctc ggttgcatac caaatgtctt 48660
ctcctacaat aatcttctca acgggctgtg tgatgagaac agaagccaag aagctctcga 48720
gttgctgcac atgatggctg atgatcgagg aggaggtagc ccacctgatg tggtgtcgta 48780
taccactgtc atcaatggct tcttcaaaga gggggattca gacaaagctt acagtacata 48840
```

46

```
ccatgaaatg ctggaccggg ggattttacc tgatgttgtg acctacagct ctattattgc 48900
tgcgttatgc aagggtcaag ctatggacaa gccatggagg tacttaccac gatggttaag 48960
aatggtgtca tgcctgattg catgacatat aatagttatt tcttgaaatg ttggatcgag 49020
gcatttgtct ggacactatt ttctttaatt caataattga cagtcattgc aaagaaggga 49080
gggttataga atctgaaaaa ctctttgacc tgatggtacg tattggtgtg aagcctgata 49140
tcattacata cagtacactc atcgatggat attgcttggc aggtaagatg gatgaagcaa 49200
tgaagttact ttctggcatg gtctcagttg ggttgaaacc taatactgtt acttatagca 49260
ctttgattaa tggctactgc aaaattagta ggatggaaga cgcgttagtt cttttttaagg 49320
agatggagag cagtggtgtt agtcctgata ttattacgta taacataatt ctgcaaggtt 49380
tatttcaaac cagaagaact gctgctgcaa aagaactcta tgtcaggatt accgaaagtg 49440
gaacgcagat tgaacttagc acatacaaca taatccttca tggactttgc aaaaacaaac 49500
tcactgatga tgcacttcag atgtttcaga acctatgttt gatggatttg aagcttgagg 49560
ctaggacttt caacattatg attgatgcat tgcttaaagt tggcagaaat gatgaagcca 49620
aggatttgtt tgttgctttc tcgtctaacg gtttagtgcc gaattattgg acgtacaggt 49680
tgatggctga aaatattata ggacaggggt tgctagaaga attggatcaa ctctttcttt 49740
caatggagga caatggctgt actgttgact ctggcatgct aaatttcatt gttagggaac 49800
tgttgcagag aggtgagata accagggctg gcacttacct ttccatgatt gatgagaagc 49860
actttttccct cgaagcatcc actgcttcct tgtttataga tctttttgtct gggggaaaat 49920
atcaagaata ttataggttt ctccctgaaa aatacaagtc ctttatagaa tctttgagct 49980
gctgaagcat tttgcagctt tgaaattctg tgttggaatt cttttctcct acagtcctat 50040
tagaggaggg atcttctctg tatgtgtaaa tagcgaggta tgtatgccac ctctccgaat 50100
tatttttact gtggttccta gactgtaaac aagcaattat gttatgctgt tgatgccaga 50160
aaaaacataa aagtttgtcg ttatctctac taacggatca taaagggatt tgtgactgga 50220
gtttcaaact taatgtgtct aggcagtaat tttgacatta gatccaaaac aatttatagg 50280
gtttcattaa atttcatcta tgtgtactgt ttaggtgttg aatagtttga cttgttttttt 50340
aactgaacaa aagatatgtc tgaagctttg ttctttacca aatgcagtac tgatcatcac 50400
aatatatttt ttatggaaca agattggatt gtatagaatg gtttccgatc tgattatctt 50460
atctcaacgt attattatgc acatgtacta atcatgaaat atctgatgga atgatgtttc 50520
tatttacctg tgtgaggcag caaggagtga gatggataac accacatact ccctctatcc 50580
cagaatataa gaagttttag agttggacac gattattaag aaagtaggta gaagtgagta 50640
gtggagggtt gtgattgcat gagtagtgga ggtaggtggg aaaagtgaat ggtggagggt 50700
tgtgattggt tgggaagaga atgttggtag agaagttgtt atattttggg gagtacatta 50760
ttattctaga acaatactgt tgtgctcaag aagcgttcca aagatgtttc acaacctgtg 50820
ctcgatgggt tttgagctta atcctgggac attcagtatc atgatctgtc tcattcttaa 50880
acatggaata aaggatgaca gcatgatttc tttgtctcta taatctttttg gctacccaca 50940
gataatagct gtaaatctat actactttaa aaggagtagt ggtggtggtg agtggtgaat 51000
ctgccaccac cccaccacca actctcaaaa ttctgacatg tgggatcact gtcaatccct 51060
tctccaagac atgtgggatc actgtcaatc ccttctccaa accaattgta tgatagaaca 51120
gtggaaatca cggacagacc atggagctct caaccataat catccttgcg agttaataac 51180
aaatggagcg taaacttggc aagcaaaaaa ctcaaattaa ttctaaaatt aagctctagg 51240
attcaaaata gatttcctct ctgcattgtg ctgttatgat ttttaattcc gtaacaacgc 51300
aaatgcattt tgctagtctt ataaagaagg gttaatgcaa atattctgat taaatgattg 51360
tatctatgaa gtttgaatgc tagtggaagc tcctttgacc atgttttgtt gtgcgagcat 51420
ttaagagagt gaagagaatg cttctttggt gctgttctgg tatggaagga tccacagata 51480
aaattcaggt tctactgctt ctctgcttgt aattttcatg aagctgcagt gaataccttg 51540
ttgaccactt gatctgttgc tttgaaggag aatatagtag tggccaaggt tggtgacggt 51600
gatggtggca tgtgatcccc cagatcttca gtgacccaga gaggagggga cggcgcgtgg 51660
tgagctacaa ggcatactca gtggagggca agatcaaggc ctcccgtccg taggggactc 51720
cgctgcatca aggccaactg ctccgaactg atcaatttct ggtacggatc acttctcctt 51780
tccttttttt tttcacctta agcactctct tgattcttcg ctgctacctc ccttaatttc 51840
tttcaatata ttgtggcact tgatcatggc ggagacccac cttccagtgt gaatggattt 51900
tgtcaaagaa ctaaatttat tccattagct tattttctga ttacatggaa gacattcttt 51960
tctggaataa atacagaact aaatcctgtt tcctgaataa aagttgttag tgtgtggcat 52020
ggtgcatttc cgcgcttcta aattttataa aacctgttca ttcaatttga acctgcatcc 52080
aatccaatat tttaggtgca gacaggtgct tgcggtcagg ttaaagaagt tggcaaaaat 52140
gcttctgaag aaaggttaat tgttgtttca tctcaggagg taatatgcag atgattattc 52200
caattggcat tgccttgcca tttttatcac gagtctttac aatttatat cctcctacat 52260
```

47

```
attctttcca gattccagat gatccagtgt ctccaacaat tgaggcgctt attttgctcc 52320
atagtaaagc aagtacactt gctgagaacc accagttgac aacacggctt gttgtaccat 52380
caaacaaagt tggttgtatt cttggggaag gtggaaaggt aattactgaa atgagaagac 52440
ggactggggc tgaaatccga gtctactcaa aagcagataa acctaagtac ctgtcttttg 52500
atgaggagct tgtgcaggta atttatttgg ccatacctac accagagatc catatattac 52560
ttttataact gcagttttta cttgttaaca tttcattgtg cttttacatt tgttccaagc 52620
tttcaggttg ctgggcttcc agctattgaa agaggagccc tgacagagat tgcttcgagg 52680
ctttgaacta ggacactcag agatggaagt tcttccaata atccgacacc ttttgcccct 52740
gttgatggtc ctcctgttga tatcttgcct aacaaggaat tcatgctata tggacgatct 52800
gctaatagtc ccccatatgg agggcctgct aatgatccac catatggaag acctgccatt 52860
gatccaccat atggaagacc aatatccaca atatggaaga cctgccaatg atccaccata 52920
tagaagacct gtcaatgata catcatattg agggttggac aatgatgggc ctcgtgatca 52980
ggcccggtcc tgaggggggt cgaatggggc gatcgctccg gcccccgat tcccagggcc 53040
cccacctatc tgtgcaacga gtagtagcga tcttccagcg cgcaacgtga ggcgatgttt 53100
ctccgtgatt tcgccggcct gcaactgcga gatcgcgagt ataacgatca gccgatcgat 53160
ctcatctgcc gactgccatg ctgatgccac acgcaagcgc agcatatcag ccttatcttg 53220
gttgatcggc atgctggacg agcacatctg ttgtcgcatc aactgctgac tgctatatat 53280
gtgctggtgc tgaatcgatc gattgtcgtc gcggaagtga agaacaacca cggcactgct 53340
gcctgctggg ctctagccgc catcagtaag tacgctatac tgcctatcta gatctagatc 53400
gagattacat agtggaatta tctgtttata acaaaattac aaggtatcaa ttgataattt 53460
aaggttataa ccgtacaaac ttcagtgatt tgctggtttc acattggtta gatttgtttc 53520
aactaatttg gtacttctgt agccttgtaa tttacgaatc tagtattaat attttcttaa 53580
gtattagcct gttccttgat attatgctgt tgagaaagta tgcaatagat aacaaaaaca 53640
agtaggtgtg ttgaggatgc tcaagagtaa tacagccact tcaataattc tgatattatc 53700
aggacatcat caataattct gcgcctacaa atcttcaaag aaaattttaa tataatgcgt 53760
atgatttttt aaatacgaat attgattgct attttaaagat atttatatta tatggtaatt 53820
attatttgaa ggtttataat aaaggcctcc gttttttagtt tcacgctggg ccttcagaat 53880
ctcaggaccg gccctgctca tgatc                                     53905
```

<210> 29
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide primer for amplification

<400> 29
atcaggagcc ttcaaattgg gaac   24

<210> 30
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide primer for amplification

<400> 30
ctcgcaaatt gcttaatttt gacc   24

<210> 31
<211> 24
<212> DNA
<213> Artificial Sequence

<220>

48

<223> Synthetic oligonucleotide primer for amplification

<400> 31
tgaaggagtt atgggtgcgt gacg   24

<210> 32
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide primer for amplification

<400> 32
ttgccgagca cacttgccat gtgc   24

<210> 33
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide primer for amplification

<400> 33
gcgacgcaat ggacatagtg ctcc   24

<210> 34
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide primer for amplification

<400> 34
ttacctgcca agcaatatcc atcg   24

<210> 35
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide primer for amplification

<400> 35
aaggcatact cagtggaggg caag   24

<210> 36
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide primer for amplification

```
<400>  36
ttaacctgac cgcaagcacc tgtc        24


<210>  37
<211>  24
<212>  DNA
<213>  Artificial Sequence


<220>
<223>  Synthetic oligonucleotide primer for amplification


<400>  37
tggatggact atgtggggtc agtc        24


<210>  38
<211>  24
<212>  DNA
<213>  Artificial Sequence


<220>
<223>  Synthetic oligonucleotide primer for amplification


<400>  38
agtggaagtg gagagagtag ggag        24


<210>  39
<211>  24
<212>  DNA
<213>  Artificial Sequence


<220>
<223>  Synthetic oligonucleotide primer for amplification


<400>  39
ccctccaaca cataaatggt tgag        24


<210>  40
<211>  24
<212>  DNA
<213>  Artificial Sequence


<220>
<223>  Synthetic oligonucleotide primer for amplification


<400>  40
tttctgccag gaaactgtta gatg        24


<210>  41
<211>  24
<212>  DNA
<213>  Artificial Sequence


<220>
<223>  Synthetic oligonucleotide primer for amplification


<400>  41
gcgatcttat acgcatacta tgcg        24
```

```
<210>    42
<211>    24
<212>    DNA
<213>    Artificial Sequence

<220>
<223>    Synthetic oligonucleotide primer for amplification

<400>    42
aaagtctttg ttccttcacc aagg        24


<210>    43
<211>    26
<212>    DNA
<213>    Artificial Sequence

<220>
<223>    Synthetic oligonucleotide primer for amplification

<400>    43
gaggatttat caaaacagga tggacg        26


<210>    44
<211>    24
<212>    DNA
<213>    Artificial Sequence

<220>
<223>    Synthetic oligonucleotide primer for amplification

<400>    44
tgggcggcag cagtggagga taga        24


<210>    45
<211>    24
<212>    DNA
<213>    Artificial Sequence

<220>
<223>    Synthetic oligonucleotide primer for amplification

<400>    45
aagaagggag ggttatagaa tctg        24


<210>    46
<211>    24
<212>    DNA
<213>    Artificial Sequence

<220>
<223>    Synthetic oligonucleotide primer for amplification

<400>    46
atatcaggac taacaccact gctc        24


<210>    47
```

```
<211>  24
<212>  DNA
<213>  Artificial Sequence

<220>
<223>  Synthetic oligonucleotide primer for amplification

<400>  47
acgagtagta gcgatcttcc agcg        24

<210>  48
<211>  24
<212>  DNA
<213>  Artificial Sequence

<220>
<223>  Synthetic oligonucleotide primer for amplification

<400>  48
cagcgtgaaa ctaaaaacgg aggc        24

<210>  49
<211>  24
<212>  DNA
<213>  Artificial Sequence

<220>
<223>  Synthetic oligonucleotide primer for amplification

<400>  49
atcccacatc atcataatcc gacc        24

<210>  50
<211>  25
<212>  DNA
<213>  Artificial Sequence

<220>
<223>  Synthetic oligonucleotide primer for amplification

<400>  50
agcttctccc ttggatacgg tggcg       25

<210>  51
<211>  24
<212>  DNA
<213>  Artificial Sequence

<220>
<223>  Synthetic oligonucleotide primer for amplification

<400>  51
atttgttggt tagttgcggc tgag        24

<210>  52
<211>  24
<212>  DNA
```

<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide primer for amplification

<400> 52
gcccaaactc aaaaggagag aacc   24

<210> 53
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide primer for amplification

<400> 53
cctcaagtct cccctaaagc cact   24

<210> 54
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide primer for amplification

<400> 54
gctctactgc tgataaaccg tgag   24

<210> 55
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide primer for amplification

<400> 55
tggatggact atgtggggtc agtc   24

<210> 56
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide primer for amplification

<400> 56
agtggaagtg gagagagtag ggag   24

<210> 57
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide primer for amplification

<400> 57
tacgacgcca tttcactcca ttgc   24

<210> 58
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide primer for amplification

<400> 58
catttctcta tgggcgttgc tctg   24

<210> 59
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide primer for amplification

<400> 59
acctgtaggt atggcacctt caacac   26

<210> 60
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide primer for amplification

<400> 60
ccaaggaacg aagttcaaat gtatgg   26

<210> 61
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide primer for amplification

<400> 61
tgatgtgttt gggcatccct ttcg   24

<210> 62
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide primer for amplification

```
<400>  62
gagataggggg acgacagaca cgac         24

<210>  63
<211>  26
<212>  DNA
<213>  Artificial Sequence

<220>
<223>  Synthetic oligonucleotide primer for amplification

<400>  63
tcctatggct gtttagaaac tgcaca         26

<210>  64
<211>  24
<212>  DNA
<213>  Artificial Sequence

<220>
<223>  Synthetic oligonucleotide primer for amplification

<400>  64
caagttcaaa cataactggc gttg         24

<210>  65
<211>  24
<212>  DNA
<213>  Artificial Sequence

<220>
<223>  Synthetic oligonucleotide primer for amplification

<400>  65
cactgtcctg taagtgtgct gtgc         24

<210>  66
<211>  24
<212>  DNA
<213>  Artificial Sequence

<220>
<223>  Synthetic oligonucleotide primer for amplification

<400>  66
caagcgtgtg ataaaatgtg acgc         24

<210>  67
<211>  24
<212>  DNA
<213>  Artificial Sequence

<220>
<223>  Synthetic oligonucleotide primer for amplification

<400>  67
```

```
tgcctactgc cattactatg tgac        24


<210>  68
<211>  24
<212>  DNA
<213>  Artificial Sequence

<220>
<223>  Synthetic oligonucleotide primer for amplification

<400>  68
acatactacc gtaaatggtc tctg        24


<210>  69
<211>  4820
<212>  DNA
<213>  rice

<400>  69
atcgatcgcg atctccctgc cccgacgtcg ccggccgatc tctcattctc tccacgccct  60
gctcgtcgcc gatctcctac accatccctg ccatctcctc cttcccctcc cctctatcct 120
ccactggtgc cgcccacctc tccgtataag acaaactgcg ttgcggcgtt ggtttccgcc 180
ggcgctgctg ctgcacctgt cagctagggc gggcatggcg cgccgcgccg cttcccgcgc 240
tgttggcgcc cttcgctcgg acggctcgat ccaagggcga ggaggccgcg cgggggggcag 300
tggcgccgag gacgcacgcc acgtgttcga cgaattgctc cgccgtggca ggggcgcctc 360
gatctacggc ttgaaccgcg ccctcgccga cgtcgcgcgt gacagccccg cggccgccgt 420
gtcccgctac aaccgcatgg cccgagccgg cgccgacgag gtaactcccg acttgtgcac 480
ctacggcatt ctcatcggtt gctgctgccg cgcgggccgc ttggacctcg gtttcgcggc 540
cttgggcaat gtcattaaga agggatttag agtggacgcc atcgccttca ctcctctgct 600
caagggcctc tgtgccgaca agaggacgag cgacgcaatg gacatagtgc tccgcagaat 660
gaccgagctc ggctgcatac caaatgtctt ctcctacaat attcttctca aggggctgtg 720
tgatgagaac agaagccaag aagctctcga gctgctgcac atgatggctg atgatcgagg 780
aggaggtagc ccacctgatg tggtgtcgta taccactgtc atcaatggct tcttcaaaga 840
gggggattca gacaaagctt acagtacata ccatgaaatg ctggaccggg ggattttacc 900
tgatgttgtg acctacaact ctattattgc tgcgttatgc aaggctcaag ctatggacaa 960
agccatggag gtacttaaca ccatggttaa gaatggtgtc atgcctgatt gcatgacata 1020
taatagtatt ctgcatggat attgctcttc agggcagccg aaagaggcta ttggatttct 1080
caaaaagatg cgcagtgatg gtgtcgaacc agatgttgtt acttatagct tgctcatgga 1140
ttatctttgc aagaacggaa gatgcatgga agctagaaag attttcgatt ctatgaccaa 1200
gagggggccta aagcctgaaa ttactaccta tggtaccctg cttcagggg t atgctaccaa 1260
aggagccctt gttgagatgc atggtctctt ggatttgatg gtacgaaacg gtatccaccc 1320
tgatcattat gttttcagca ttctaatatg tgcatacgct aaacaaggga agtagatca 1380
ggcaatgctt gtgttcagca aaatgaggca gcaaggattg aatccgaatg cagtgacgta 1440
tggagcagtt ataggcatac tttgcaagtc aggcagagta gaagatgcta tgctttattt 1500
tgagcagatg atcgatgaag gactaagccc tggcaacatt gtttataact ccctaattca 1560
tggtttgtgc acctgtaaca aatgggagag ggctgaagag ttaattcttg aaatgttgga 1620
tcgaggcatc tgtctgaaca ctattttctt taattcaata attgacagtc attgcaaaga 1680
agggagggtt atagaatctg aaaaactctt tgagctgatg gtacgtattg gtgtgaagcc 1740
caatgtcatt acctacaata ctcttatcaa tggatattgc ttggcaggta agatggatga 1800
agcaatgaag ttactttctg catggtctc agttgggttg aaacctaata ctgttactta 1860
tagcactttg attaatggct actgcaaaat tagtaggatg gaagacgcgt tagttctttt 1920
taaggagatg gagagcagtg gtgttagtcc tgatattatt acgtataaca taattctgca 1980
aggtttattt caaaccagaa gaactgctgc tgcaaaagaa ctctatgtta ggattaccga 2040
aagtggaacg cagattgaac ttagcacata caacataatc cttcatggac tttgcaaaaa 2100
caaactcact gatgatgcac ttcagatgtt tcagaaccta tgtttgatgg atttgaagct 2160
tgaggctagg actttcaaca ttatgattga tgcattgctt aaagttggca gaaatgatga 2220
agccaaggat ttgtttgttg ctttctcgtc taacggttta gtgccgaatt attggacgta 2280
```

56

```
caggttgatg gctgaaaata ttataggaca ggggttgcta gaagaattgg atcaactctt 2340
tctttcaatg gaggacaatg gctgtactgt tgactctggc atgctaaatt tcattgttag 2400
ggaactgttg cagagaggtg agataaccag ggctggcact tacctttcca tgattgatga 2460
gaagcacttt tccctcgaag catccactgc ttccttgttt atagatcttt tgtctggggg 2520
aaaatatcaa gaatattata ggtttctccc tgaaaaatac aagtccttta tagaatcttt 2580
gagctgctga agcattttgc agctttgaaa ttctgtgttg gaattctttt ctcctacagt 2640
cctattagag gagggatctt ctctgtatgt gtaaatagcg agtttgaatg ctagtggaag 2700
ctcctttgac catgttttgt tgtgcgagca tttaagagag tgaagagaat gcttctttgg 2760
tgctgttctg gtatggaagg atccacagat aaaattcagt agtggccaag gttggtgacg 2820
gtgatggtgg catgtgatcc cccagatctt cagtgaccca gagaggaggg gacggcgcgt 2880
ggtgagctac aaggcatact cagtggaggg caagatcaag gcctcccgtc cgtaggggac 2940
tccgctgcat caaggccaac tgctccgaac tgatcaattt ctggtgcaga caggtgcttg 3000
cggtcaggtt aaagaagttg gcaaaaatgc ttctgaagaa aggttaattg ttgtttcatc 3060
tcaggagatt ccagatgatc cagtgtctcc aacaattgag gcgcttattt tgctccatag 3120
taaagtaagt acacttgctg agaaccacca gttgacaaca cggcttgttg taccatcaaa 3180
caaagttggt tgtattcttg gggaaggtgg aaaggtaatt actgaaatga gaagacggac 3240
tggggctgaa atccgagtct actcaaaagc agataaacct aagtacctgt cttttgatga 3300
ggagcttgtg caggttgctg ggcttccagc tattgaaaga ggagccctga cagagattgc 3360
ttcgaggctt tgaactagga cactcagaga tggaagttct tccaataatc cgacaccttt 3420
tgcccctgtt gatggtcctc ctgttgatat cttgcctaac aaggaattca tgctatatgg 3480
acgatctgct aatagtcccc catatggagg gcctgctaat gatccaccat atggaagacc 3540
tgccattgat ccaccatatg gaagaccaat atccacaata tggaagacct gccaatgatc 3600
caccatatag aagacctgtc aatgatacat catattgagg gttgaacaat gatgggcctc 3660
gtgatcaggc ccggtcctga ggggggtcga atggggcgat cgctccgggc cccccgattc 3720
ccagggcccc cacctatctg tgcaacgagt agtagcgatc ttccagcgcg caacgtgagg 3780
cgatgtttct ccgtgatttc gccggcctgc aactgcgaga tcgcgagtat aacgatcagc 3840
cgatcgatct catctgccga ctgccatgct gatgccacac gcaagcgcag catatcagcc 3900
ttatcttggt tgatcggcat gctggacgag cacatctgtt gtcgcatcaa ctgctgactg 3960
ctatatatgt gctggtgctg aatcgatcga ttgtcgtcac ggaagtgaag aacaaccacg 4020
gcactgctgc ctgctgggct ctagccgcca tcagctgcgg agctgatcca tggacgtgag 4080
gattaccgaa gactgtcagg tctcactggg tatccaggtg gctctgtcga attgtggatt 4140
ccaaatagtt aactggagtc tgtcattggt gttggtggtg tcaatctagc tgagatccgt 4200
ctggtatagc gtaagagaaa catcatgcac tatccccagt cataaccatg ccccaatggc 4260
caccaatagt tttcctcgtg aaaatctccc cttgatccca gatctctggt gcgagagtga 4320
agttgcacga agcccatcct ggttcttccg agtccattgt ggagatccag ggcattccgg 4380
atcaagtgaa agccgcacag agccttctgc aaggcttcat cggcgcaagc agcaacagca 4440
ggcaggcgcc ccagtcctct cgcatggccc attatttta gtaagctgga ggacattcgc 4500
aacaggggg tcagtggtca ctgcaaagct gagtttgttc ttcagttcaa ctgcagaaaa 4560
ttgcagatcg gttgccgtag ttgctagaac ggtacatagt tgccacctaa ctgtagcgag 4620
tggcataact tattgtgtgt tactgcccaa tgttgtctct ccttgtgttc atggattcag 4680
acttgtgatt gtagtatttc tggatcagac tggagtaaaa gaaaaaaaaa aaggaagaca 4740
tgggtttaac agtaagctca aaacgttgac agtagtaaaa taaaaggggt ttgttcactt 4800
taaaaaaaaa aaaaaaaaaa                                            4820
```

<210> 70
<211> 4821
<212> DNA
<213> rice

<400> 70
```
cgatcgcgat ctccctgccc cgacgtcgcc ggccgatctc tcattctctc cacgccctgc 60
tcgtcgccga tctcctacac catccctgcc atctcctcct tcccctcccc tctatcctcc 120
actggtgccg cccacctctc cgtataagac aaactgcgtt gcggcgttgg tttccgccgg 180
cgctgctgct gcacctgtca gctagggcgg gcatggcgcg ccgcgccgct tcccgcgctg 240
ttggcgccct tcgctcggac ggctcgatcc aagggcgagg aggccgcgcg gggggcagtg 300
gcgccgagga cgcacgccac gtgttcgacg aattgctccg ccgtggcagg ggcgcctcga 360
tctacggctt gaaccgcgcc ctcgccgacg tcgcgcgtga cagccccgcg ccgccgtgt 420
```

. 57

```
cccgctacaa  ccgcatggcc  cgagccggcg  ccgacgaggt  aactcccgac  ttgtgcacct  480
acggcattct  catcggttgc  tgctgccgcg  cgggccgctt  ggacctcggt  ttcgcggcct  540
tgggcaatgt  cattaagaag  ggatttagag  tggacgccat  cgccttcact  cctctgctca  600
agggcctctg  tgccgacaag  aggacgagcg  acgcaatgga  catagtgctc  cgcagaatga  660
ccgagctcgg  ctgcatacca  aatgtcttct  cctacaatat  tcttctcaag  gggctgtgtg  720
atgagaacag  aagccaagaa  gctctcgagc  tgctgcacat  gatggctgat  gatcgaggag  780
gaggtagccc  acctgatgtg  gtgtcgtata  ccactgtcat  caatggcttc  ttcaaagagg  840
gggattcaga  caaagcttac  agtacatacc  atgaaatgct  ggaccggggg  attttacctg  900
atgttgtgac  ctacaactct  attattgctg  cgttatgcaa  ggctcaagct  atggacaaag  960
ccatggaggt  acttaacacc  atggttaaga  atggtgtcat  gcctgattgc  atgacatata  1020
atagtattct  gcatggatat  tgctcttcag  ggcagccgaa  agaggctatt  ggatttctca  1080
aaaagatgcg  cagtgatggt  gtcgaaccag  atgttgttac  ttatagcttg  ctcatggatt  1140
atctttgcaa  gaacggaaga  tgcatggaag  ctagaaagat  tttcgattct  atgaccaaga  1200
ggggcctaaa  gcctgaaatt  actacctatg  gtaccctgct  tcagggtat  gctaccaaag  1260
gagcccttgt  tgagatgcat  ggtctcttgg  atttgatggt  acgaaacggt  atccaccctg  1320
atcattatgt  tttcagcatt  ctaatatgtg  catacgctaa  acaagggaaa  gtagatcagg  1380
caatgcttgt  gttcagcaaa  atgaggcagc  aaggattgaa  tccgaatgca  gtgacgtatg  1440
gagcagttat  aggcatactt  tgcaagtcag  gcagagtaga  agatgctatg  ctttattttg  1500
agcagatgat  cgatgaagga  ctaagccctg  gcaacattgt  ttataactcc  ctaattcatg  1560
gtttgtgcac  ctgtaacaaa  tgggagaggg  ctgaagagtt  aattcttgaa  atgttggatc  1620
gaggcatctg  tctgaacact  attttcttta  attcaataat  tgacagtcat  tgcaaagaag  1680
ggagggttat  agaatctgaa  aaactctttg  agctgatggt  acgtattggt  gtgaagccca  1740
atgtcattac  ctacaatact  cttatcaatg  gatattgctt  ggcaggtaag  atggatgaag  1800
caatgaagtt  actttctggc  atggtctcag  ttgggttgaa  acctaatact  gttacttata  1860
gcactttgat  taatggctac  tgcaaaatta  gtaggatgga  agacgcgtta  gttcttttta  1920
aggagatgga  gagcagtggt  gttagtcctg  atattattac  gtataacata  attctgcaag  1980
gtttatttca  aaccagaaga  actgctgctg  caaaagaact  ctatgttagg  attaccgaaa  2040
gtggaacgca  gattgaactt  agcacataca  acataatcct  tcatggactt  tgcaaaaaca  2100
aactcactga  tgatgcactt  cagatgtttc  agaacctatg  tttgatggat  ttgaagcttg  2160
aggctaggac  tttcaacatt  atgattgatg  cattgcttaa  agttggcaga  aatgatgaag  2220
ccaaggattt  gtttgttgct  ttctcgtcta  acggtttagt  gccgaattat  tggacgtaca  2280
ggttgatggc  tgaaaatatt  ataggacagg  ggttgctaga  agaattggat  caactctttc  2340
tttcaatgga  ggacaatggc  tgtactgttg  actctggcat  gctaaatttc  attgttaggg  2400
aactgttgca  gagaggtgag  ataaccaggg  ctggcactta  cctttccatg  attgatgaga  2460
agcacttttc  cctcgaagca  tccactgctt  ccttgtttat  agatcttttg  tctgggggaa  2520
aatatcaaga  atattatagg  tttctccctg  aaaaatacaa  gtcctttata  gaatctttga  2580
gctgctgaag  cattttgcag  ctttgaaatt  ctgtgttgga  attctttct  cctacagtcc  2640
tattagagga  gggatcttct  ctgtatgtgt  aaatagcgag  tttgaatgct  agtggaagct  2700
cctttgacca  tgtttttgttg  tgcgagcatt  taagagagtg  aagagaatgc  ttctttggtg  2760
ctgttctggt  atggaaggat  ccacagataa  aattcagtag  tggccaaggt  tggtgacggt  2820
gatggtggca  tgtgatcccc  cagatcttca  gtgacccaga  gaggagggga  cggcgcgtgg  2880
tgagctacaa  ggcatactca  gtggagggca  agatcaaggc  ctcccgtccg  tagggaactc  2940
cgctgcatca  aggccaactg  ctccgaactg  atcaatttct  ggtgcagaca  ggtgcttgcg  3000
gtcaggttaa  agaagttggc  aaaaatgctt  ctgaagaaag  gttaattgtt  gtttcatctc  3060
aggagattcc  agatgatcca  gtgtctccaa  caattgaggc  gcttattttg  ctccatagta  3120
aagtaagtac  acttgctgag  aaccaccagt  tgacaacacg  gcttgttgta  ccatcaaaca  3180
aagttggttg  tattcttggg  gaaggtggaa  aggtaattac  tgaaatgaga  agacggactg  3240
gggctgaaat  ccgagtctac  tcaaaagcag  ataaacctaa  gtacctgtct  tttgatgagg  3300
agcttgtgca  ggttgctggg  cttccagcta  ttgaagagg  agccctgaca  gagattgctt  3360
cgaggctttg  aactaggaca  ctcagagatg  gaagttcttc  caataatccg  acaccttttg  3420
cccctgttga  tggtcctcct  gttgatatct  tgcctaacaa  ggaattcatg  ctatatggac  3480
gatctgctaa  tagtccccca  tatggagggc  ctgctaatga  tccaccatat  ggaagacctg  3540
ccattgatcc  accatatgga  agaccaatat  ccacaatatg  gaagacctgc  caatgatcca  3600
ccatatagaa  gacctgtcaa  tgatacatca  tattgagggt  tgaacaatga  tgggcctcgt  3660
gatcaggccc  ggtcctgagg  ggggtcgaat  ggggcgatcg  ctccgggccc  cccgattccc  3720
agggccccca  cctatctgtg  caacgagtag  tagcgatctt  ccagcgcgca  acgtgaggcg  3780
atgtttctcc  gtgatttcgc  cggcctgcaa  ctgcgagatc  gcgagtataa  cgatcagccg  3840
```

58

```
atcgatctca tctgccgact gccatgctga tgccacacgc aagcgcagca tatcagcctt 3900
atcttggttg atcggcatgc tggacgagca catctgttgt cgcatcaact gctgactgct 3960
atatatgtgc tggtgctgaa tcgatcgatt gtcgtcacgg aagtgaagaa caaccacggc 4020
actgctgcct gctgggctct agccgccatc agctgcggag ctgatccatg gacgtgagga 4080
ttaccgaaga ctgtcaggtc tcactgggta tccaggtggc tctgtcgaat tgtggattcc 4140
aaatagttaa ctggagtctg tcattggtgt tggtggtgtc aatctagctg agatccgtct 4200
ggtatagcgt aagagaaaca tcatgcacta tccccagtca taaccatgcc ccaatggcca 4260
ccaatagttt tcctcgtgaa aatctcccct tgatcccaga tctctggtgc gagagtgaag 4320
ttgcacgaag cccatcctgg ttcttccgag tccattgtgg agatccaggg cattccggat 4380
caagtgaaag ccgcacagag ccttctgcaa ggcttcatcg cgcaagcag caacagcagg 4440
caggcgcccc agtcctctcg catggcccat tattttagt aagctggag acattcgcaa 4500
caggggggtc agtggtcact gcaaagctga gtttgttctt cagttcaact gcagaaaatt 4560
gcagatcggt tgccgtagtt gctagaacgg tacatagttg ccacctaact gtagcgagtg 4620
gcataactta ttgtgtgtta ctgcccaatg ttgtctctcc ttgtgttcat ggattcagac 4680
ttgtgattgt agtatttctg gatcagactg gagtaaaaga aaaaaaaaa ggaagacatg 4740
ggtttaacag taagctcaaa acgttgacag tagtaaaata aaagggggttt gttcacttta 4800
aaaaaaaaa aaaaaaaaaa a                                            4821


<210>   71
<211>   5005
<212>   DNA
<213>   rice

<400>   71
gagatcgatc gcgatctccc tgccccgacg tcgccggccg atctctcatt ctctccacgc 60
cctgctcgtc gccgatctcc tacaccatcc ctgccatctc ctccttcccc tcccctctat 120
cctccactgg tgccgcccac ctctccgtat aagacaaact gcgttgcggc gttggtttcc 180
gccggcgctg ctgctgcacc tgtcagctag ggcgggcatg gcgcgccgcg ccgcttcccg 240
cgctgttggc gcccttcgct cggacggctc gatccaaggg cgaggaggcc gcgcgggggg 300
cagtggcgcc gaggacgcac gccacgtgtt cgacgaattg ctccgccgtg gcaggggcgc 360
ctcgatctac ggcttgaacc gcgccctcgc cgacgtcgcg cgtgacagcc ccgcggccgc 420
cgtgtcccgc tacaaccgca tggcccgagc cggcgccgac gaggtaactc ccgacttgtg 480
cacctacggc attctcatcg gttgctgctg ccgcgcgggc cgcttggacc tcggtttcgc 540
ggccttgggc aatgtcatta agaaagggatt tagagtggac gccatcgcct tcactcctct 600
gctcaagggc ctctgtgccg acaagaggac gagcgacgca atggacatag tgctccgcag 660
aatgaccgag ctcggctgca taccaaatgt cttctcctac aatattcttc tcaagggggct 720
gtgtgatgag aacagaagcc aagaagctct cgagctgctg cacatgatgg ctgatgatcg 780
aggaggaggt agcccacctg atgtggtgtc gtataccact gtcatcaatg cttcttcaa 840
agagggggat tcagacaaag cttacagtac ataccatgaa atgctggacc gggggatttt 900
acctgatgtt gtgacctaca actctattat tgctgcgtta tgcaaggctc aagctatgga 960
caaagccatg gaggtactta acaccatggt taagaatggt gtcatgcctg attgcatgac 1020
atataatagt attctgcatg gatattgctc ttcagggcag ccgaaagagg ctattggatt 1080
tctcaaaaag atgcgcagtg atggtgtcga accagatgtt gttacttata gcttgctcat 1140
ggattatctt tgcaagaacg gaagatgcat ggaagctaga aagattttcg attctatgac 1200
caagaggggc ctaaagcctg aaattactac ctatggtacc ctgcttcagg ggtatgctac 1260
caaaggagcc cttgttgaga tgcatggtct cttggatttg atggtacgaa acggtatcca 1320
ccctgatcat tatgttttca gcattctaat atgtgcatac gctaaacaag gaaagtaga 1380
tcaggcaatg cttgtgttca gcaaaatgag gcagcaagga ttgaatccga atgcagtgac 1440
gtatggagca gttataggca tactttgcaa gtcaggcaga gtagaagatg ctatgcttta 1500
ttttgagcag atgatcgatg aaggactaag ccctggcaac attgtttata actccctaat 1560
tcatggtttg tgcacctgta acaaatggga gagggctgaa gagttaattc ttgaaatgtt 1620
ggatcgaggc atctgtctga cactatttt ctttaattca ataattgaca gtcattgcaa 1680
agaagggagg gttatagaat ctgaaaaact ctttgagctg atggtacgta ttggtgtgaa 1740
gcccaatgtc attacctaca atactcttat caatggatat tgcttggcag gtaagatgga 1800
tgaagcaatg aagttacttt ctggcatggt ctcagttggg ttgaaaccta atactgttac 1860
ttatagcact ttgattaatg gctactgcaa aattagtagg atggaagacg cgttagttct 1920
ttttaaggag atggagagca gtggtgttag tcctgatatt attacgtata acataattct 1980
```

59

```
gcaaggttta tttcaaacca gaagaactgc tgctgcaaaa gaactctatg ttaggattac 2040
cgaaagtgga acgcagattg aacttagcac atacaacata atccttcatg gactttgcaa 2100
aaacaaactc actgatgatg cacttcagat gtttcagaac ctatgtttga tggatttgaa 2160
gcttgaggct aggactttca acattatgat tgatgcattg cttaaagttg gcagaaatga 2220
tgaagccaag gatttgtttg ttgctttctc gtctaacggt ttagtgccga attattggac 2280
gtacaggttg atggctgaaa atattatagg acagggttg ctagaagaat tggatcaact 2340
ctttctttca atggaggaca atggctgtac tgttgactct ggcatgctaa atttcattgt 2400
tagggaactg ttgcagagag gtgagataac cagggctggc acttaccttt ccatgattga 2460
tgagaagcac ttttccctcg aagcatccac tgcttccttg tttatagatc ttttgtctgg 2520
gggaaaaatat caagaatatt ataggtttct ccctgaaaaa tacaagtcct ttatagaatc 2580
tttgagctgc tgaagcattt tgcagctttg aaattctgtg ttggaattct tttctcctac 2640
agtcctatta gaggagggat cttctctgta tgtgtaaata gcgagtttga atgctagtgg 2700
aagctccttt gaccatgttt tgttgtgcga gcatttaaga gagtgaagag aatgcttctt 2760
tggtgctgtt ctggtatgga aggatccaca gataaaattc aggagaatat agtagtggcc 2820
aaggttggtg acggtgatgg tggcatgtga tcccccagat cttcagtgac ccagagagga 2880
ggggacggcg cgtggtgagc tacaaggcat actcagtgga gggcaagatc aaggcctccc 2940
gtccgtaggg gactccgctg catcaaggcc aactgctccg aactgatcaa tttctggtgc 3000
agacaggtgc ttgcggtcag gttaaagaag ttggcaaaaa tgcttctgaa gaaaggttaa 3060
ttgttgtttc atctcaggag attccagatg atccagtgtc tccaacaatt gaggcgctta 3120
ttttgctcca tagtaaagta agtacacttg ctgagaacca ccagttgaca acacggcttg 3180
ttgtaccatc aaacaaagtt ggttgtattc ttggggaagg tggaaaggta attactgaaa 3240
tgagaagacg gactgggggct gaaatccgag tctactcaaa agcagataaa cctaagtacc 3300
tgtctttttga tgaggagctt gtgcaggttg ctgggcttcc agctattgaa agaggagccc 3360
tgacagagat tgcttcgagg ctttgaacta ggacactcag agatggaagt tcttccaata 3420
atccgacacc ttttgccccct gttgatggtc ctcctgttga tatcttgcct aacaaggaat 3480
tcatgctata tggacgatct gctaatagtc ccccatatgg agggcctgct aatgatccac 3540
catatggaag acctgccatt gatccaccat atggaagacc aatatccaca atatggaaga 3600
cctgccaatg atccaccata tagaagacct gtcaatgata catcatattg agggttgaac 3660
aatgatgggc ctcgtgatca ggcccggtcc tgaggggggt cgaatggggc gatcgctccg 3720
ggcccccccga ttcccagggc ccccacctat ctgtgcaacg agtagtagcg atcttccagc 3780
gcgcaacgtg aggcgatgtt tctccgtgat ttcgccggcc tgcaactgcg agatcgcgag 3840
tataacgatc agccgatcga tctcatctgc cgactgccat gctgatgcca cacgcaagcg 3900
cagcatatca gccttatctt ggttgatcgg catgctggac gagcacatct gttgtcgcat 3960
caactgctga ctgctatata tgtgctggtg ctgaatcgat cgattgtcgt cacggaagtg 4020
aagaacaacc acggcactgc tgcctgctgg gctctagccg ccatcagctg cggagctgat 4080
ccatggacgt gaggattacc gaagactgtc aggtctcact gggtatccag gtggctctgt 4140
cgaattgtgg attccaaata gttaactgga gtctgtcatt ggtgttggtg gtgtcaatct 4200
agctgagatc cgtctggtat agcgtaagag aaacatcatg cactatcccc agtcataacc 4260
atgccccaat ggccaccaat agttttcctc gtgaaaatct cccccttgatc ccagatctct 4320
ggtgcgagag tgaagttgca cgaagcccat cctggttctt ccgagtccat tgtggagatc 4380
cagggcattc cggatcaagt gaaagccgca cagagccttc tgcaaggctt catcggcgca 4440
agcagcaaca gcaggcaggc gccccagtcc tctcgcatgg cccattattt ttagtaagct 4500
ggaggacatt cgcaacaggg gggtcagtgg tcactgcaaa gctgagtttg ttcttcagtt 4560
caactgcaga aaattgcaga tcggttgccg tagttgctag aacggtacat agttgccacc 4620
taactgtagc gagtggcata acttattgtg tgttactgcc caatgttgtc tctccttgtg 4680
ttcatggatt cagacttgtg attgtagtat ttctggatca gactggagta aaagaaaaaa 4740
aaaaaggaag acatgggttt aacagtaagc tcaaaacgtt gacagtagta aaataaaagg 4800
ggtttgttca ctttatttcc aatatcaacc ttaccaacat ttggcgttga atcatttata 4860
ccacatcgct tgtgcagctg aatttggggc tgtttaaaag atggtctctt ggattgctaa 4920
ttgcctcgcg gcaagcgtgg taccttgtac aatataaata taattataac tatttaattt 4980
cataaaaaaa aaaaaaaaaa aaaaa                                       5005

<210>  72
<211>  4978
<212>  DNA
<213>  rice
```

<400> 72

```
gcgatctccc tgccccgacg tcgccggccg atctctcatt ctctccacgc cctgctcgtc 60
gccgatctcc tacaccatcc ctgccatctc ctccttcccc tcccctctat cctccactgg 120
tgccgcccac ctctccgtat aagacaaact gcgttgcggc gttggtttcc gccggcgctg 180
ctgctgcacc tgtcagctag ggcgggcatg gcgcgccgcg ccgcttcccg cgctgttggc 240
gcccttcgct cggacggctc gatccaaggg cgaggaggcc gcgcggggg cagtggcgcc 300
gaggacgcac gccacgtgtt cgacgaattg ctccgccgtg gcagggggcgc ctcgatctac 360
ggcttgaacc gcgccctcgc cgacgtcgcg cgtgacagcc ccgcggccgc cgtgtcccgc 420
tacaaccgca tggcccgagc cggcgccgac gaggtaactc ccgacttgtg cacctacggc 480
attctcatcg gttgctgctg ccgcgcgggc cgcttggacc tcggtttcgc ggccttgggc 540
aatgtcatta agaagggatt tagagtggac gccatcgcct tcactcctct gctcaagggc 600
ctctgtgccg acaagaggac gagcgacgca atggacatag tgctccgcag aatgaccgag 660
ctcggctgca taccaaatgt cttctcctac aatattcttc tcaaggggct gtgtgatgag 720
aacagaagcc aagaagctct cgagctgctg cacatgatgg ctgatgatcg aggaggaggt 780
agcccacctg atgtggtgtc gtataccact gtcatcaatg gcttcttcaa agagggggat 840
tcagacaaag cttacagtac ataccatgaa atgctggacc gggggatttt acctgatgtt 900
gtgacctaca actctattat tgctgcgtta tgcaaggctc aagctatgga caaagccatg 960
gaggtactta acaccatggt taagaatggt gtcatgcctg attgcatgac atataatagt 1020
attctgcatg gatattgctc ttcagggcag ccgaaagagg ctattggatt tctcaaaaag 1080
atgcgcagtg atggtgtcga accagatgtt gttacttata gcttgctcat ggattatctt 1140
tgcaagaacg gaagatgcat ggaagctaga aagattttcg attctatgac caagaggggc 1200
ctaaagcctg aaattactac ctatggtacc ctgcttcagg ggtatgctac caaaggagcc 1260
cttgttgaga tgcatggtct cttggatttg atggtacgaa acggtatcca ccctgatcat 1320
tatgttttca gcattctaat atgtgcatac gctaaacaag ggaaagtaga tcaggcaatg 1380
cttgtgttca gcaaaatgag gcagcaagga ttgaatccga atgcagtgac gtatggagca 1440
gttataggca tactttgcaa gtcaggcaga gtagaagatg ctatgcttta ttttgagcag 1500
atgatcgatg aaggactaag ccctggcaac attgtttata actccctaat tcatggtttg 1560
tgcacctgta acaaatggga gagggctgaa gagttaattc ttgaaatgtt ggatcgaggc 1620
atctgtctga acactatttt cttttaattca ataattgaca gtcattgcaa agaagggagg 1680
gttatagaat ctgaaaaact cttttgagctg atggtacgta ttggtgtgaa gcccaatgtc 1740
attacctaca atactcttat caatggatat tgcttggcag gtaagatgga tgaagcaatg 1800
aagttacttt ctggcatggt ctcagttggg ttgaaaccta atactgttac ttatagcact 1860
ttgattaatg gctactgcaa aattagtagg atggaagacg cgttagttct ttttaaggag 1920
atggagagca gtggtgttag tcctgatatt attacgtata acataattct gcaaggttta 1980
tttcaaacca gaagaactgc tgctgcaaaa gaactctatg ttaggattac cgaaagtgga 2040
acgcagattg aacttagcac atacaacata atccttcatg gactttgcaa aaacaaactc 2100
actgatgatg cacttcagat gtttcagaac ctatgtttga tggatttgaa gcttgaggct 2160
aggactttca acattatgat tgatgcattg cttaaagttg gcagaaatga tgaagccaag 2220
gatttgtttg ttgctttctc gtctaacggt ttagtgccga attattggac gtacaggttg 2280
atggctgaaa atattatagg acaggggttg ctagaagaat tggatcaact cttctcttca 2340
atggaggaca atggctgtac tgttgactct ggcatgctaa atttcattgt tagggaactg 2400
ttgcagagag gtgagataac cagggctggc acttaccttt ccatgattga tgagaagcac 2460
ttttccctcg aagcatccac tgcttccttg tttatagatc ttttgtctgg gggaaaatat 2520
caagaatatt ataggtttct ccctgaaaaa tacaagtcct ttatagaatc tttgagctgc 2580
tgaagcattt tgcagctttg aaattctgtg ttggaattct tttctcctac agtcctatta 2640
gaggagggat cttctctgta tgtgtaaata gcgagtttga atgctagtgg aagctccttt 2700
gaccatgttt tgttgtgcga gcatttaaga gagtgaagag aatgcttctt ggtgctgtt 2760
ctggtatgga aggatccaca gataaaattc aggttctact gcttctctgc ttgtaatttt 2820
catgaagctg cagtgaatac cttgttgacc acttgatctg ttgctttgaa ggagaatata 2880
gtagtggcca aggttggtga cggtgatggt ggcatgtgat cccccagatc ttcagtgacc 2940
cagagaggag gggacggcgc gtggtgagct acaaggcata ctcagtggag ggcaagatca 3000
aggcctcccg tccgtagggg actccgctgc atcaaggcca actgctccga actgatcaat 3060
ttctggtgca gacaggtgct tgcggtcagg ttaaagaagt tggcaaaaat gcttctgaag 3120
aaaggttaat tgttgtttca tctcaggaga ttccagatga tccagtgtct ccaacaattg 3180
aggcgcttat tttgctccat agtaaagtaa gtacacttgc tgagaaccac cagttgacaa 3240
cacggcttgt tgtaccatca aacaaagttg gttgtattct tggggaaggt ggaaaggtaa 3300
ttactgaaat gagaagacgg actggggctg aaatccgagt ctactcaaaa gcagataaac 3360
```

61

```
ctaagtacct gtcttttgat gaggagcttg tgcaggttgc tgggcttcca gctattgaaa 3420
gaggagccct gacagagatt gcttcgaggc tttgaactag gacactcaga gatggaagtt 3480
cttccaataa tccgacacct tttgcccctg ttgatggtcc tcctgttgat atcttgccta 3540
acaaggaatt catgctatat ggacgatctg ctaatagtcc cccatatgga gggcctgcta 3600
atgatccacc atatggaaga cctgccattg atccaccata tggaagacca atatccacaa 3660
tatggaagac ctgccaatga tccaccatat agaagacctg tcaatgatac atcatattga 3720
gggttgaaca atgatgggcc tcgtgatcag gcccggtcct gagggggggtc gaatggggcg 3780
atcgctccgg gcccccgat tcccagggcc cccacctatc tgtgcaacga gtagtagcga 3840
tcttccagcg cgcaacgtga ggcgatgttt ctccgtgatt cgccggcct gcaactgcga 3900
gatcgcgagt ataacgatca gccgatcgat ctcatctgcc gactgccatg ctgatgccac 3960
acgcaagcgc agcatatcag ccttatcttg gttgatcggc atgctggacg agcacatctg 4020
ttgtcgcatc aactgctgac tgctatatat gtgctggtgc tgaatcgatc gattgtcgtc 4080
acggaagtga agaacaacca cggcactgct gcctgctggg ctctagccgc catcagtaag 4140
ctgcggagct gatccatgga cgtgaggatt accgaagact gtcaggtctc actgggtatc 4200
caggtggctc tgtcgaattg tggattccaa atagttaact ggagtctgtc attggtgttg 4260
gtggtgtcaa tctagctgag atccgtctgg tatagcgtaa gagaaacatc atgcactatc 4320
cccagtcata accatgcccc aatggccacc aatagttttc ctcgtgaaaa tctcccttg 4380
atcccagatc tctggtgcga gagtgaagtt gcacgaagcc catcctggtt cttccgagtc 4440
cattgtggag atccagggca ttccggatca agtgaaagcc gcacagagcc ttctgcaagg 4500
cttcatcggc gcaagcagca acagcaggca ggcgccccag tcctctcgca tggcccatta 4560
tttttagtaa gctggaggac attcgcaaca gggggggtcag tggtcactgc aaagctgagt 4620
ttgttcttca gttcaactgc agaaaattgc agatcggttg ccgtagttgc tagaacggta 4680
catagttgcc acctaactgt agcgagtggc ataacttatt gtgtgttact gcccaatgtt 4740
gtctctcctt gtgttcatgg attcagactt gtgattgtag tatttctgga tcagactgga 4800
gtaaaagaaa aaaaaaaagg aagacatggg tttaacagta agctcaaaac gttgacagta 4860
gtaaaataaa aggggtttgt tcactttaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 4920
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaa    4978


<210>   73
<211>   4722
<212>   DNA
<213>   rice

<400>   73
cgccgatctc ctacaccatc cctgccatct cctccttccc ctcccctcta tcctccactg 60
gtgccgccca cctctccgta taagacaaac tgcgttgcgg cgttggtttc cgccggcgct 120
gctgctgcac ctgtcagcta gggcgggcat ggcgcgccgc gccgcttccc gcgctgttgg 180
cgcccttcgc tcggacggct cgatccaagg gcgaggaggc cgcgcggggg gcagtggcgc 240
cgaggacgca cgccacgtgt tcgacgaatt gctccgccgt ggcaggggcg cctcgatcta 300
cggcttgaac cgcgccctcg ccgacgtcgc gcgtgacagc cccgcggccg ccgtgtcccg 360
ctacaaccgc atggcccgag ccggcgccga cgaggtaact cccgacttgt gcacctacgg 420
cattctcatc ggttgctgct gccgcgcggg ccgcttggac ctcggtttcg cggccttggg 480
caatgtcatt aagaagggat ttagagtgga cgccatcgcc ttcactcctc tgctcaaggg 540
cctctgtgcc gacaagagga cgagcgacgc aatggacata gtgctccgca gaatgaccga 600
gctcggctgc ataccaaatg tcttctccta caatattctt ctcaaggggc tgtgtgatga 660
gaacagaagc caagaagctc tcgagctgct gcacatgatg gctgatgatc gaggaggagg 720
tagcccacct gatgtggtgt cgtataccac tgtcatcaat ggcttcttca agagggggga 780
ttcagacaaa gcttacagta cataccatga aatgctggac cgggggattt tacctgatgt 840
tgtgacctac aactctatta ttgctgcgtt atgcaaggct caagctatgg acaaagccat 900
ggaggtactt aacaccatgg ttaagaatgg tgtcatgcct gattgcatga catataatag 960
tattctgcat ggatattgct cttcagggca gccgaaagag ctattggat ttctcaaaaa 1020
gatgcgcagt gatggtgtcg aaccagatgt tgttacttat agcttgctca tggattatct 1080
ttgcaagaac ggaagatgca tggaagctag aaagattttc gattctatga ccaagagggg 1140
cctaaagcct gaaattacta cctatggtac cctgcttcag gggtatgcta ccaaaggagc 1200
ccttgttgag atgcatggtc tcttggattt gatggtacga aacggtatcc accctgatca 1260
ttatgttttc agcattctaa tatgtgcata cgctaaacaa gggaaagtag atcaggcaat 1320
gcttgtgttc agcaaaatga ggcagcaagg attgaatccg aatgcagtga cgtatggagc 1380
```

62

```
agttataggc atactttgca agtcaggcag agtagaagat gctatgcttt attttgagca 1440
gatgatcgat gaaggactaa gccctggcaa cattgtttat aactccctaa ttcatggttt 1500
gtgcacctgt aacaaatggg agagggctga agagttaatt cttgaaatgt tggatcgagg 1560
catctgtctg aacactattt tctttaattc aataattgac agtcattgca aagaagggag 1620
ggttatagaa tctgaaaaac tctttgagct gatggtacgt attggtgtga agcccaatgt 1680
cattacctac aatactctta tcaatggata ttgcttggca ggtaagatgg atgaagcaat 1740
gaagttactt tctggcatgg tctcagttgg gttgaaacct aatactgtta cttatagcac 1800
tttgattaat ggctactgca aaattagtag gatggaagac gcgttagttc tttttaagga 1860
gatggagagc agtggtgtta gtcctgatat tattacgtat aacataattc tgcaaggttt 1920
atttcaaacc agaagaactg ctgctgcaaa agaactctat gttaggatta ccgaaagtgg 1980
aacgcagatt gaacttagca catacaacat aatccttcat ggactttgca aaaacaaact 2040
cactgatgat gcacttcaga tgtttcagaa cctatgtttg atggatttga gcttgaggc 2100
taggactttc aacattatga ttgatgcatt gcttaaagtt ggcagaaatg atgaagccaa 2160
ggatttgttt gttgctttct cgtctaacgg tttagtgccg aattattgga cgtacaggtt 2220
gatggctgaa aatattatag acagggggtt gctagaagaa ttggatcaac tctttctttc 2280
aatggaggac aatggctgta ctgttgactc tggcatgcta aatttcattg ttagggaact 2340
gttgcagaga ggtgagataa ccagggctgg cacttacctt tccatgattg atgagaagca 2400
cttttccctc gaagcatcca ctgcttcctt gtttatagat cttttgtctg ggggaaaata 2460
tcaagaatat tataggtttc tccctgaaaa atacaagtcc tttatagaat ctttgagctg 2520
ctgaagcatt ttgcagcttt gaaattctgt gttggaattc ttttctccta cagtcctatt 2580
agaggaggga tcttctctgt atgtgtaaat agcgagtttg aatgctagtg gaagctcctt 2640
tgaccatgtt ttgttgtgcg agcatttaag agagtgaaga gaatgcttct ttggtgctgt 2700
tctggtatgg aaggatccac agataaaatt caggttctac tgcttctctg cttgtaattt 2760
tcatgaagct gcagtaata ccttgttgac cacttgatct gttgctttga aggagaatat 2820
agtagtggcc aaggttggtg acggtgatgg tggcatgtga tcccccagat cttcagtgac 2880
ccagagagga ggggacggcg cgtggtgagc tacaaggcat actcagtgga gggcaagatc 2940
aaggcctccc gtccgtaggg gactccgctg catcaaggcc aactgctccg aactgatcaa 3000
tttctggtgc agacaggtgc ttgcggtcag gttaaagaag ttggcaaaaa tgcttctgaa 3060
gaaaggttaa ttgttgtttc atctcaggag attccagatg atccagtgtc tccaacaatt 3120
gaggcgctta tttttgctcca tagtaaagtg gaaaggtaat tactgaaatg agaagacgga 3180
ctggggctga aatccgagtc tactcaaaag cagataaacc taagtacctg tcttttgatg 3240
aggagcttgt gcaggttgct gggcttccag ctattgaaag aggagccctg acagagattg 3300
cttcgaggct ttgaactagg acactcagag atggaagttc ttccaataat ccgacacctt 3360
ttgcccctgt tgatggtcct cctgttgata tcttgcctaa caaggaattc atgctatatg 3420
gacgatctgc taatagtccc ccatatggag ggcctgctaa tgatccacca tatggaagac 3480
ctgccattga tccaccatat ggaagaccaa tatccacaat atggaagacc tgccaatgat 3540
ccaccatata gaagacctgt caatgataca tcatattgag ggttgaacaa tgatgggcct 3600
cgtgatcagg cccggtcctg agggggggtcg aatggggcga tcgctccggg cccccgatt 3660
cccagggccc ccacctatct gtgcaacgag tagtagcgat cttccagcgc gcaacgtgag 3720
gcgatgtttc tccgtgattt cgccggcctg caactgcgag atcgcgagta taacgatcag 3780
ccgatcgatc tcatctgccg actgccatgc tgatgccaca cgcaagcgca gcatatcagc 3840
cttatcttgg ttgatcggca tgctggacga gcacatctgt tgtcgcatca actgctgact 3900
gctatatatg tgctggtgct gaatcgatcg attgtcgtca cggaagtgaa gaacaaccac 3960
ggcactgctg cctgctgggc tctagccgcc atcagctgcg gagctgatcc atggacgtga 4020
ggattaccga agactgtcag gtctcactgg gtatccaggt ggctctgtcg aattgtggat 4080
tccaaatagt taactggagt ctgtcattgg tgttggtggt gtcaatctag ctgagatccg 4140
tctggtatag cgtaagagaa acatcatgca ctatccccag tcataaccat gccccaatgg 4200
ccaccaatag ttttcctcgt gaaaatctcc ccttgatccc agatctctgg tgcgagagtg 4260
aagttgcacg aagcccatcc tggttcttcc gagtccattg tggagatcca gggcattccg 4320
gatcaagtga aagccgcaca gagccttctg caaggcttca tcggcgcaag cagcaacagc 4380
aggcaggcgc cccagtcctc tcgcatggcc cattattttt agtaagctgg aggacattcg 4440
caacaggggg gtcagtggtc actgcaaagc tgagtttgtt cttcagttca actgcagaaa 4500
attgcagatc ggttgccgta gttgctagaa cggtacatag ttgccaccta actgtagcga 4560
gtggcataac ttattgtgtg ttactgccca atgttgtctc tccttgtgtt catggattca 4620
gacttgtgat tgtagtattt ctggatcaga ctggagtaaa agaaaaaaaa aaaggaagac 4680
atgggtttaa cagtaaaaaa aaaaaaaaaa aaaaaaaaa aa                    4722
```

63

<210> 74
<211> 6164
<212> DNA
<213> rice

<400> 74
cgcagaagag atcgatcgcg atctccctgc cccgacgtcg ccggccgatc tctcattctc 60
tccacgccct gctcgtcgcc gatctcctac accatccctg ccatctcctc cttcccctcc 120
cctctatcct ccactggtgc cgcccacctc tccgtataag acaaactgcg ttgcggcgtt 180
ggtttccgcc ggcgctgctg ctgcacctgt cagctagggc gggcatggcg cgccgcgccg 240
cttcccgcgc tgttggcgcc cttcgctcgg acggctcgat ccaagggcga ggaggccgcg 300
cggggggcag tggcgccgag gacgcacgcc acgtgttcga cgaattgctc cgccgtggca 360
ggggcgcctc gatctacggc ttgaaccgcg ccctcgccga cgtcgcgcgt gacagccccg 420
cggccgccgt gtcccgctac aaccgcatgg cccgagccgg cgccgacgag gtaactcccg 480
acttgtgcac ctacggcatt ctcatcggtt gctgctgccg cgcgggccgc ttggacctcg 540
gtttcgcggc cttgggcaat gtcattaaga agggatttag agtggacgcc atcgccttca 600
ctcctctgct caagggcctc tgtgccgaca agaggacgag cgacgcaatg gacatagtgc 660
tccgcagaat gaccgagctc ggctgcatac caaatgtctt ctcctacaat attcttctca 720
aggggctgtg tgatgagaac agaagccaag aagctctcga gctgctgcac atgatggctg 780
atgatcgagg aggaggtagc ccacctgatg tggtgtcgta taccactgtc atcaatggct 840
tcttcaaaga gggggattca gacaaagctt acagtacata ccatgaaatg ctggaccggg 900
ggattttacc tgatgttgtg acctacaact ctattattgc tgcgttatgc aaggctcaag 960
ctatggacaa agccatggag gtacttaaca ccatggttaa gaatggtgtc atgcctgatt 1020
gcatgacata taatagtatt ctgcatggat attgctcttc agggcagccg aaagaggcta 1080
ttggatttct caaaaagatg cgcagtgatg gtgtcgaacc agatgttgtt acttatagct 1140
tgctcatgga ttatctttgc aagaacggaa gatgcatgga agctagaaag attttcgatt 1200
ctatgaccaa gaggggccta aagcctgaaa ttactaccta tggtaccctg cttcaggggt 1260
atgctaccaa aggagccctt gttgagatgc atggtctctt ggatttgatg gtacgaaacg 1320
gtatccaccc tgatcattat gttttcagca ttctaatatg tgcatacgct aaacaaggga 1380
aagtagatca ggcaatgctt gtgttcagca aaatgaggca gcaaggattg aatccgaatg 1440
cagtgacgta tggagcagtt ataggcatac tttgcaagtc aggcagagta gaagatgcta 1500
tgctttattt tgagcagatg atcgatgaag gactaagccc tggcaacatt gtttataact 1560
ccctaattca tggtttgtgc acctgtaaca aatgggagag ggctgaagag ttaattcttg 1620
aaatgttgga tcgaggcatc tgtctgaaca ctattttctt taattcaata attgacagtc 1680
attgcaaaga agggagggtt atagaatctg aaaaactctt tgagctgatg gtacgtattg 1740
gtgtgaagcc caatgtcatt acctacaata ctcttatcaa tggatattgc ttggcaggta 1800
agatggatga agcaatgaag ttactttctg gcatggtctc agttgggttg aaacctaata 1860
ctgttactta tagcactttg attaatggct actgcaaaat tagtaggatg gaagacgcgt 1920
tagttctttt taaggagatg gagagcagtg gtgttagtcc tgatattatt acgtataaca 1980
taattctgca aggtttattt caaaccagaa gaactgctgc tgcaaaagaa ctctatgtta 2040
ggattaccga aagtggaacg cagattgaac ttagcacata caacataatc cttcatggac 2100
tttgcaaaaa caaactcact gatgatgcac ttcagatgtt tcagaaccta tgtttgatgg 2160
atttgaagct tgaggctagg actttcaaca ttatgattga tgcattgctt aaagttggca 2220
gaaatgatga agccaaggat ttgtttgttg ctttctcgtc taacggttta gtgccgaatt 2280
attggacgta caggttgatg gctgaaaata ttataggaca ggggttgcta gaagaattgg 2340
atcaactctt tctttcaatg gaggacaatg ctgtactgt tgactctggc atgctaaatt 2400
tcattgttag ggaactgttc agagaggtg agataaccag ggctggcact tacctttcca 2460
tgattgatga gaagcacttt tccctcgaag catccactgc ttccttgttt atagatcttt 2520
tgtctggggg aaaatatcaa gaatattata ggtttctccc tgaaaaatac aagtccttta 2580
tagaatcttt gagctgctga agcattttgc agctttgaaa ttctgtgttg gaattctttt 2640
ctcctacagt cctattagag gagggatctt ctctgtatgt gtaaatagcg aggtatgtat 2700
gccacctctc cgaattattt ttactgtggt tcctagactg taaacaagca attatgttat 2760
gctgttgatg ccagaaaaaa cataaaagtt tgtcgttatc tctactaacg gatcataaag 2820
ggatttgtga ctggagtttc aaacttaatg tgtctaggca gtaattttga cattagatcc 2880
aaaacaattt atagggtttc attaaatttc atctatgtgt actgtttagg tgttgaatag 2940
tttgacttgt tttttaactg aacaaagat atgtctgaag ctttgttctt taccaaatgc 3000
agtactgatc atcacaatat attttttatg gaacaagatt ggattgtata gaatggtttc 3060

```
tgatctgatt atcttatctc aacgtattat tatgcacatg tactaatcat gaaatatctg 3120
atggaatgat gtttctattt acctgtgtga ggcagcaagg agtgagatgg ataacaccac 3180
atactccctc tgtcccagaa tataagaagt tttagagttg gacacgatta ttaagaaagt 3240
aggtagaagt gagtagtgga gggttgtgat tgcatgagta gtggaggtag gtgggaaaag 3300
tgaatggtgg agggttgtga ttggttggga agagaatgtt ggtagagaag ttgttatatt 3360
ttggggagta cattattatt ctagaacaat actgttgtgc tcaagaagcg ttccaaagat 3420
gtttcacaac ctgtgctcga tgggttttga gcttaatcct gggacattca gtatcatgat 3480
ctgtctcatt cttaaacatg gaataaagga tgacagcatg atttctttgt ctctataatc 3540
ttttggctac ccacagataa tagctgtaaa tctatactac tttaaaagga gtagtggtgg 3600
tggtgagtgg tgaatctgcc accacccac caccaactct caaaattctg acatgtggga 3660
tcactgtcaa tcccttctcc aagacatgtg ggatcactgt caatcccttc tccaaaccaa 3720
ttgtatgata gaacagtgga aatcacggac agaccatgga gctctcaacc ataatcatcc 3780
ttgcgagtta ataacaaatg gagcgtaaac ttggcaagca aaaaactcaa attaattcta 3840
aaattaagct ctaggattca aaatagattt cctctctgca ttgtgctgtt atgattttta 3900
attccgtaac aacgcaaatg cattttgcta gtcttataaa gaagggttaa tgcaaatatt 3960
ctgattaaat gattgtatct atgaagtttg aatgctagtg gaagctcctt tgaccatgtt 4020
ttgttgtgcg agcatttaag agagtgaaga gaatgcttct ttggtgctgt tctggtatgg 4080
aaggatccac agataaaatt caggttctac tgcttctctg cttgtaattt tcatgaagct 4140
gcagtgaata ccttgttgac cacttgatct gttgctttga aggagaatat agtagtggcc 4200
aaggttggtg acggtgatgg tggcatgtga tcccccagat cttcagtgac ccagagagga 4260
ggggacggcg cgtggtgagc tacaaggcat actcagtgga gggcaagatc aaggcctccc 4320
gtccgtaggg gactccgctg catcaaggcc aactgctccg aactgatcaa tttctggtgc 4380
agacaggtgc ttgcggtcag gttaaagaag ttggcaaaaa tgcttctgaa gaaaggttaa 4440
ttgttgtttc atctcaggag attccagatg atccagtgtc tccaacaatt gaggcgctta 4500
ttttgctcca tagtaaagta agtacacttg ctgagaacca ccagttgaca cacggcttg 4560
ttgtaccatc aaacaaagtt ggttgtattc ttggggaagg tggaaaggta attactgaaa 4620
tgagaagacg gactgggggct gaaatccgag tctactcaaa agcagataaa cctaagtacc 4680
tgtctttga tgaggagctt gtgcaggttg ctgggcttcc agctattgaa agaggagccc 4740
tgacagagat tgcttcgagg ctttgaacta ggacactcag agatggaagt tcttccaata 4800
atccgacacc ttttgcccct gttgatggtc ctcctgttga tatcttgcct aacaaggaat 4860
tcatgctata tggacgatct gctaatagtc ccccatatgg agggcctgct aatgatccac 4920
catatggaag acctgccatt gatccaccat atggaagacc aatatccaca atatggaaga 4980
cctgccaatg atccaccata tagaagacct gtcaatgata catcatattg agggttgaac 5040
aatgatgggc ctcgtgatca ggcccggtcc tgagggggt cgaatgggc gatcgctccg 5100
ggccccccga ttcccagggc ccccacctat ctgtgcaacg agtagtagcg atcttccagc 5160
gcgcaacgtg aggcgatgtt tctccgtgat ttcgccggcc tgcaactgcg agatcgcgag 5220
tataacgatc agccgatcga tctcatctgc cgactgccat gctgatgcca cacgcaagcg 5280
cagcatatca gccttatctt ggttgatcgg catgctggac gagcacatct gttgtcgcat 5340
caactgctga ctgctatata tgtgctggtg ctgaatcgat cgattgtcgt cacggaagtg 5400
aagaacaacc acggcactgc tgcctgctgg gctctagccg ccatcagctg cggagctgat 5460
ccatggacgt gaggattacc gaagactgtc aggtctcact gggtatccag gtggctctgt 5520
cgaattgtgg attccaaata gttaactgga gtctgtcatt ggtgttggtg gtgtcaatct 5580
agctgagatc cgtctggtat agcgtaagag aaacatcatg cactatcccc agtcataacc 5640
atgccccaat ggccaccaat agttttcctc gtgaaaatct ccccttgatc ccagatctct 5700
ggtgcgagag tgaagttgca cgaagcccat cctggttctt ccgagtccat tgtggagatc 5760
cagggcattc cggatcaagt gaaagccgca cagagccttc tgcaaggctt catcggcgca 5820
agcagcaaca gcaggcaggc gccccagtcc tctcgcatgg cccattattt ttagtaagct 5880
ggaggacatt cgcaacaggg gggtcagtgg tcactgcaaa gctgagtttg ttcttcagtt 5940
caactgcaga aaattgcaga tcggttgccg tagttgctag aacggtacat agttgccacc 6000
taactgtagc gagtggcata acttattgtg tgttactgcc caatgttgtc tctccttgtg 6060
ttcatggatt cagacttgtg attgtagtat ttctggatca gactggagta aaagaaaaaa 6120
aaaaaggaag acatgggttt aacagtaaaa aaaaaaaaa aaaa            6164

<210>  75
<211>  791
<212>  PRT
<213>  rice
```

65

<400> 75

```
Met Ala Arg Arg Ala Ala Ser Arg Ala Val Gly Ala Leu Arg Ser
1               5                   10                  15
Asp Gly Ser Ile Gln Gly Arg Gly Gly Arg Ala Gly Gly Ser Gly
                20                  25                  30
Ala Glu Asp Ala Arg His Val Phe Asp Glu Leu Leu Arg Arg Gly
                35                  40                  45
Arg Gly Ala Ser Ile Tyr Gly Leu Asn Arg Ala Leu Ala Asp Val
                50                  55                  60
Ala Arg Asp Ser Pro Ala Ala Ala Val Ser Arg Tyr Asn Arg Met
                65                  70                  75
Ala Arg Ala Gly Ala Asp Glu Val Thr Pro Asp Leu Cys Thr Tyr
                80                  85                  90
Gly Ile Leu Ile Gly Cys Cys Cys Arg Ala Gly Arg Leu Asp Leu
                95                  100                 105
Gly Phe Ala Ala Leu Gly Asn Val Ile Lys Lys Gly Phe Arg Val
                110                 115                 120
Asp Ala Ile Ala Phe Thr Pro Leu Leu Lys Gly Leu Cys Ala Asp
                125                 130                 135
Lys Arg Thr Ser Asp Ala Met Asp Ile Val Leu Arg Arg Met Thr
                140                 145                 150
Glu Leu Gly Cys Ile Pro Asn Val Phe Ser Tyr Asn Ile Leu Leu
                155                 160                 165
Lys Gly Leu Cys Asp Glu Asn Arg Ser Gln Glu Ala Leu Glu Leu
                170                 175                 180
Leu His Met Met Ala Asp Asp Arg Gly Gly Gly Ser Pro Pro Asp
                185                 190                 195
Val Val Ser Tyr Thr Thr Val Ile Asn Gly Phe Phe Lys Glu Gly
                200                 205                 210
Asp Ser Asp Lys Ala Tyr Ser Thr Tyr His Glu Met Leu Asp Arg
                215                 220                 225
Gly Ile Leu Pro Asp Val Val Thr Tyr Asn Ser Ile Ile Ala Ala
                230                 235                 240
Leu Cys Lys Ala Gln Ala Met Asp Lys Ala Met Glu Val Leu Asn
                245                 250                 255
Thr Met Val Lys Asn Gly Val Met Pro Asp Cys Met Thr Tyr Asn
                260                 265                 270
Ser Ile Leu His Gly Tyr Cys Ser Ser Gly Gln Pro Lys Glu Ala
                275                 280                 285
Ile Gly Phe Leu Lys Lys Met Arg Ser Asp Gly Val Glu Pro Asp
                290                 295                 300
Val Val Thr Tyr Ser Leu Leu Met Asp Tyr Leu Cys Lys Asn Gly
                305                 310                 315
Arg Cys Met Glu Ala Arg Lys Ile Phe Asp Ser Met Thr Lys Arg
                320                 325                 330
Gly Leu Lys Pro Glu Ile Thr Thr Tyr Gly Thr Leu Leu Gln Gly
                335                 340                 345
Tyr Ala Thr Lys Gly Ala Leu Val Glu Met His Gly Leu Leu Asp
                350                 355                 360
Leu Met Val Arg Asn Gly Ile His Pro Asp His Tyr Val Phe Ser
                365                 370                 375
Ile Leu Ile Cys Ala Tyr Ala Lys Gln Gly Lys Val Asp Gln Ala
                380                 385                 390
Met Leu Val Phe Ser Lys Met Arg Gln Gln Gly Leu Asn Pro Asn
                395                 400                 405
Ala Val Thr Tyr Gly Ala Val Ile Gly Ile Leu Cys Lys Ser Gly
```

66

```
                    410                     415                     420
Arg Val Glu Asp Ala Met Leu Tyr Phe Glu Gln Met Ile Asp Glu
                    425                     430                     435
Gly Leu Ser Pro Gly Asn Ile Val Tyr Asn Ser Leu Ile His Gly
                    440                     445                     450
Leu Cys Thr Cys Asn Lys Trp Glu Arg Ala Glu Glu Leu Ile Leu
                    455                     460                     465
Glu Met Leu Asp Arg Gly Ile Cys Leu Asn Thr Ile Phe Phe Asn
                    470                     475                     480
Ser Ile Ile Asp Ser His Cys Lys Glu Gly Arg Val Ile Glu Ser
                    485                     490                     495
Glu Lys Leu Phe Glu Leu Met Val Arg Ile Gly Val Lys Pro Asn
                    500                     505                     510
Val Ile Thr Tyr Asn Thr Leu Ile Asn Gly Tyr Cys Leu Ala Gly
                    515                     520                     525
Lys Met Asp Glu Ala Met Lys Leu Leu Ser Gly Met Val Ser Val
                    530                     535                     540
Gly Leu Lys Pro Asn Thr Val Thr Tyr Ser Thr Leu Ile Asn Gly
                    545                     550                     555
Tyr Cys Lys Ile Ser Arg Met Glu Asp Ala Leu Val Leu Phe Lys
                    560                     565                     570
Glu Met Glu Ser Ser Gly Val Ser Pro Asp Ile Ile Thr Tyr Asn
                    575                     580                     585
Ile Ile Leu Gln Gly Leu Phe Gln Thr Arg Arg Thr Ala Ala Ala
                    590                     595                     600
Lys Glu Leu Tyr Val Arg Ile Thr Glu Ser Gly Thr Gln Ile Glu
                    605                     610                     615
Leu Ser Thr Tyr Asn Ile Ile Leu His Gly Leu Cys Lys Asn Lys
                    620                     625                     630
Leu Thr Asp Asp Ala Leu Gln Met Phe Gln Asn Leu Cys Leu Met
                    635                     640                     645
Asp Leu Lys Leu Glu Ala Arg Thr Phe Asn Ile Met Ile Asp Ala
                    650                     655                     660
Leu Leu Lys Val Gly Arg Asn Asp Glu Ala Lys Asp Leu Phe Val
                    665                     670                     675
Ala Phe Ser Ser Asn Gly Leu Val Pro Asn Tyr Trp Thr Tyr Arg
                    680                     685                     690
Leu Met Ala Glu Asn Ile Ile Gly Gln Gly Leu Leu Glu Glu Leu
                    695                     700                     705
Asp Gln Leu Phe Leu Ser Met Glu Asp Asn Gly Cys Thr Val Asp
                    710                     715                     720
Ser Gly Met Leu Asn Phe Ile Val Arg Glu Leu Leu Gln Arg Gly
                    725                     730                     735
Glu Ile Thr Arg Ala Gly Thr Tyr Leu Ser Met Ile Asp Glu Lys
                    740                     745                     750
His Phe Ser Leu Glu Ala Ser Thr Ala Ser Leu Phe Ile Asp Leu
                    755                     760                     765
Leu Ser Gly Gly Lys Tyr Gln Glu Tyr Tyr Arg Phe Leu Pro Glu
                    770                     775                     780
Lys Tyr Lys Ser Phe Ile Glu Ser Leu Ser Cys
                    785                     790 791

<210>   76
<211>   24
<212>   DNA
<213>   Artificial Sequence
```

<220>
<223> Synthetic oligonucleotide primer for amplification

<400> 76
tctcattctc tccacgccct gctc   24

<210> 77
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide primer for amplification

<400> 77
acggcggagc aattcgtcga acac   24

<210> 78
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide primer for amplification

<400> 78
agtgtgtggc atggtgcatt tccg   24

<210> 79
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide primer for amplification

<400> 79
ctctacagga tacacggtgt aagg   24

<210> 80
<211> 4746
<212> DNA
<213> rice

<400> 80
gccgcgcaga agagatcgat cgcgatctcc ctgccccgac gtcgccggcc gatctctcat 60
tctctccacg ccctgctcgt cgccgatctc ctacaccatc cctgccatct cctccttccc 120
ctcccctcta tcctccactg gtgccgccca cctctccgta taagacaaac tgcgttgcgg 180
cgttggtttc cgccggcgct gctgctgcac ctgtcagcta gggcgggcat ggcgcgccgc 240
gccgcttccc gcgctgttgg cgcccttcgc tcggacggct cgatccaagg gcgaggaggc 300
cgcgcggggg gcagtggcgc cgaggacgca cgccacgtgt tcgacgaatt gctccgccgt 360
ggcagggggcg cctcgatcta cggcttgaac cgcgccctcg ccgacgtcgc gcgtgacagc 420
cccgcggccg ccgtgtcccg ctacaaccgc atggcccgag ccggcgccga cgaggtaact 480
cccgacttgt gcacctacgg cattctcatc ggttgctgct gccgcgcggg ccgcttggac 540
ctcggtttcg cggccttggg caatgtcatt aagaagggat ttagagtgga cgccatcgcc 600
ttcactcctc tgctcaaggg cctctgtgcc gacaagagga cgagcgacgc aatggacata 660
gtgctccgca gaatgaccga gctcggctgc ataccaaatg tcttctccta caatattctt 720

```
ctcaaggggc tgtgtgatga gaacagaagc caagaagctc tcgagctgct gcacatgatg 780
gctgatgatc gaggaggagg tagcccacct gatgtggtgt cgtataccac tgtcatcaat 840
ggcttcttca aagagggggg ttcagacaaa gcttacagta cataccatga aatgctggac 900
cggggggattt tacctgatgt tgtgacctac aactctatta ttgctgcgtt atgcaaggct 960
caagctatgg acaaagccat ggaggtactt aacaccatgg ttaagaatgg tgtcatgcct 1020
gattgcatga catataatag tattctgcat ggatattgct cttcagggca gccgaaagag 1080
gctattggat ttctcaaaaa gatgcgcagt gatggtgtcg aaccagatgt tgttacttat 1140
agcttgctca tggattatct ttgcaagaac ggaagatgca tggaagctag aaagattttc 1200
gattctatga ccaagagggg cctaaagcct gaaattacta cctatggtac cctgcttcag 1260
gggtatgcta ccaaaggagc ccttgttgag atgcatggtc tcttggattt gatggtacga 1320
aacggtatcc accctgatca ttatgttttc agcattctaa tatgtgcata cgctaaacaa 1380
gggaaagtag atcaggcaat gcttgtgttc agcaaaatga ggcagcaagg attgaatccg 1440
aatgcagtga cgtatggagc agttataggc atactttgca agtcaggcag agtagaagat 1500
gctatgcttt attttgagca gatgatcgat gaaggactaa gccctggcaa cattgtttat 1560
aactccctaa ttcatggttt gtgcacctgt aacaaatggg agagggctga agagttaatt 1620
cttgaaatgt tggatcgagg catctgtctg aacactattt tctttaattc aataattgac 1680
agtcattgca aagaagggag ggttatagaa tctgaaaaac tctttgagct gatggtacgt 1740
attggtgtga agcccaatgt cattacctac aatactctta tcaatggata ttgcttggca 1800
ggtaagatgg atgaagcaat gaagttactt tctggcatgg tctcagttgg gttgaaacct 1860
aatactgtta cttatagcac tttgattaat ggctactgca aaattagtag gatggaagac 1920
gcgttagttc tttttaagga gatggagagc agtggtgtta gtcctgatat tattacgtat 1980
aacataattc tgcaaggttt atttcaaacc agaagaactg ctgctgcaaa agaactctat 2040
gttaggatta ccgaaagtgg aacgcagatt gaacttagca catacaacat aatccttcat 2100
ggactttgca aaaacaaact cactgatgat gcacttcaga tgtttcagaa cctatgtttg 2160
atggatttga gcttgaggc taggactttc aacattatga ttgatgcatt gcttaaagtt 2220
ggcagaaatg atgaagccaa ggatttgttt gttgctttct cgtctaacgg tttagtgccg 2280
aattattgga cgtacaggtt gatggctgaa aatattatag acagggggtt gctagaagaa 2340
ttggatcaac tctttctttc aatggaggac aatggctgta ctgttgactc tggcatgcta 2400
aatttcattg ttagggaact gttgcagaga ggtgagataa ccagggctgg cacttacctt 2460
tccatgattg atgagaagca ctttttccctc gaagcatcca ctgcttcctt gtttatagat 2520
cttttgtctg ggggaaaata tcaagaatat tataggtttc tccctgaaaa atacaagtcc 2580
tttatagaat ctttgagctg ctgaagcatt ttgcagcttt gaaattctgt gttggaattc 2640
ttttctccta cagtcctatt agaggaggga tcttctctgt atgtgtaaat agcgagtttg 2700
aatgctagtg gaagctcctt tgaccatgtt ttgttgtgcg agcatttaag agagtgaaga 2760
gaatgcttct ttggtgctgt tctggtatgg aaggatccac agataaaatt cagtagtggc 2820
caaggttggt gacggtgatg gtggcatgtg atcccccaga tcttcagtga cccagagagg 2880
aggggacggc gcgtggtgag ctacaaggca tactcagtgg agggcaagat caaggcctcc 2940
cgtccgtagg ggactccgct gcatcaaggc caactgctcc gaactgatca atttctggtg 3000
cagacaggtg cttgcggtca ggttaaagaa gttggcaaaa atgcttctga agaaaggtta 3060
attgttgttt catctcagga gattccagat gatccagtgt ctccaacaat tgaggcgctt 3120
attttgctcc atagtaaagt aagtacactt gctgagaacc accagttgac aacacggctt 3180
gttgtaccat caaacaaagt tggttgtatt cttggggaag gtggaaaggt aattactgaa 3240
atgagaagac ggactggggc tgaaatccga gtctactcaa aagcagataa acctaagtac 3300
ctgtcttttg atgaggagct tgtgcaggtt gctgggcttc cagctattga aagaggagcc 3360
ctgacagaga ttgcttcgag ctttgaact aggacactca gagatggaag ttcttccaat 3420
aatccgacac cttttgcccc tgttgatggt cctcctgttg atatcttgcc taacaaggaa 3480
ttcatgctat atggacgatc tgctaatagt cccccatatg gagggcctgc taatgatcca 3540
ccatatggaa gacctgccat tgatccacca tatggaagac caatatccac aatatggaag 3600
acctgccaat gatccaccat atagaagacc tgtcaatgat acatcatatt gaggttgaa 3660
caatgatggg cctcgtgatc aggcccggtc ctgagggggg tcgaatgggg cgatcgctcc 3720
gggccccccg attcccaggg cccccaccta tctgtgcaac gagtagtagc gatcttccag 3780
cgcgcaacgt gaggcgatgt ttctccgtga tttcgccggc ctgcaactgc gagatcgcga 3840
gtataacgat cagccgatcg atctcatctg ccgactgcca tgctgatgcc acacgcaagc 3900
gcagcatatc agccttatct tggttgatcg gcatgctgga cgagcacatc tgttgtcgca 3960
tcaactgctg actgctatat atgtgctggt gctgaatcga tcgattgtcg tcacggaagt 4020
gaagaacaac cacggcactg ctgcctgctg ggctctagcc gccatcagct gcggagctga 4080
tccatggacg tgaggattac cgaagactgt caggtctcac tgggtatcca ggtggctctg 4140
```

69

```
tcgaattgtg gattccaaat agttaactgg agtctgtcat tggtgttggt ggtgtcaatc 4200
tagctgagat ccgtctggta tagcgtaaga gaaacatcat gcactatccc cagtcataac 4260
catgccccaa tggccaccaa tagttttcct cgtgaaaatc tccccttgat cccagatctc 4320
tggtgcgaga gtgaagttgc acgaagccca tcctggttct tccgagtcca ttgtggagat 4380
ccagggcatt ccggatcaag tgaaagccgc acagagcctt ctgcaaggct tcatcggcgc 4440
aagcagcaac agcaggcagg cgccccagtc ctctcgcatg gcccattatt tttagtaagc 4500
tggaggacat tcgcaacagg ggggtcagtg gtcactgcaa agctgagttt gttcttcagt 4560
tcaactgcag aaaattgcag atcggttgcc gtagttgcta gaacggtaca tagttgccac 4620
ctaactgtag cgagtggcat aacttattgt gtgttactgc ccaatgttgt ctctccttgt 4680
gttcatggat tcagacttgt gattgtagta tttctggatc agactggagt aaaagaaaaa 4740
aaaaaa                                                               4746

<210>  81
<211>  4779
<212>  DNA
<213>  rice

<400>  81
tctcattctc tccacgccct gctcgtcgcc gatctcctac accatccctg ccatctcctc 60
cttcccctcc cctctatcct ccactggtgc cgcccacctc tccgtataag acaaactgcg 120
ttgcggcgtt ggtttccgcc ggcgctgctg ctgcacctgt cagctagggc gggcatggcg 180
cgccgcgccg cttcccgcgc tgttggcgcc cttcgctcgg acggctcgat ccaagggcga 240
ggaggccgcg cggggggcag tggcgccgag gacgcacgcc acgtgttcga cgaattgctc 300
cgccgtggca ggggcgcctc gatctacggc ttgaaccgcg ccctcgccga cgtcgcgcgt 360
gacagccccg cggccgccgt gtcccgctac aaccgcatgg cccgagccgg cgccgacgag 420
gtaactcccg acttgtgcac ctacggcatt ctcatcggtt gctgctgccg cgcgggccgc 480
ttggacctcg gtttcgcggc cttgggcaat gtcattaaga agggatttag agtggacgcc 540
atcgccttca ctcctctgct caagggcctc tgtgccgaca agaggacgag cgacgcaatg 600
gacatagtgc tccgcagaat gaccgagctc ggctgcatac caaatgtctt ctcctacaat 660
attcttctca aggggctgtg tgatgagaac agaagccaag aagctctcga gctgctgcac 720
atgatggctg atgatcgagg aggaggtagc ccacctgatg tggtgtcgta taccactgtc 780
atcaatggct tcttcaaaga ggggattca gacaaagctt acagtacata ccatgaaatg 840
ctggaccggg ggattttacc tgatgttgtg acctacaact ctattattgc tgcgttatgc 900
aaggctcaag ctatggacaa agccatggag gtacttaaca ccatggttaa gaatggtgtc 960
atgcctgatt gcatgacata taatagtatt ctgcatggat attgctcttc agggcagccg 1020
aaagaggcta ttggattct caaaaagatg cgcagtgatg gtgtcgaacc agatgttgtt 1080
acttatagct tgctcatgga ttatctttgc aagaacggaa gatgcatgga agctagaaag 1140
attttcgatt ctatgaccaa gaggggccta aagcctgaaa ttactaccta tggtaccctg 1200
cttcagggt atgctaccaa aggagccctt gttgagatgc atggtctctt ggatttgatg 1260
gtacgaaacg gtatccaccc tgatcattat gtttttcagca ttctaatatg tgcatacgct 1320
aaacaaggga aagtagatca ggcaatgctt gtgttcagca aaatgaggca gcaaggattg 1380
aatccgaatg cagtgacgta tggagcagtt ataggcatac tttgcaagtc aggcagagta 1440
gaagatgcta tgctttattt tgagcagatg atcgatgaag gactaagccc tggcaacatt 1500
gtttataact ccctaattca tggtttgtgc acctgtaaca aatgggagag ggctgaagag 1560
ttaattcttg aaatgttgga tcgaggcatc tgtctgaaca ctattttctt taattcaata 1620
attgacagtc attgcaaaga agggagggtt atagaatctg aaaaactctt tgagctgatg 1680
gtacgtattg gtgtgaagcc caatgtcatt acctacaata ctcttatcaa tggatattgc 1740
ttggcaggta agatggatga agcaatgaag ttactttctg catggtctc agttgggttg 1800
aaacctaata ctgttactta tagcactttg attaatggct actgcaaaat tagtaggatg 1860
gaagacgcgt tagttctttt taaggagatg gagagcagtg gtgttagtcc tgatattatt 1920
acgtataaca taattctgca aggtttattt caaaccagaa gaactgctgc tgcaaaagaa 1980
ctctatgtta ggattaccga aagtggaacg cagattgaac ttagcacata caacataatc 2040
cttcatggac tttgcaaaaa caaactcact gatgatgcac ttcagatgtt tcagaaccta 2100
tgtttgatgg atttgaagct tgaggctagg actttcaaca ttatgattga tgcattgctt 2160
aaagttggca gaaatgatga agccaaggat ttgtttgttg ctttctcgtc taacggttta 2220
gtgccgaatt attggacgta caggttgatg gctgaaaata ttataggaca ggggttgcta 2280
gaagaattgg atcaactctt tctttcaatg gaggacaatg gctgtactgt tgactctggc 2340
```

70

```
atgctaaatt tcattgttag ggaactgttg cagagaggtg agataaccag ggctggcact 2400
tacctttcca tgattgatga gaagcacttt tccctcgaag catccactgc ttccttgttt 2460
atagatcttt tgtctggggg aaaatatcaa gaatattata ggtttctccc tgaaaaatac 2520
aagtccttta tagaatcttt gagctgctga agcattttgc agctttgaaa ttctgtgttg 2580
gaattctttt ctcctacagt cctattagag gagggatctt ctctgtatgt gtaaatagcg 2640
agtttgaatg ctagtggaag ctcctttgac catgttttgt tgtgcgagca tttaagagag 2700
tgaagagaat gcttctttgg tgctgttctg gtatggaagg atccacagat aaaattcagg 2760
agaatatagt agtggccaag gttggtgacg gtgatggtgg catgtgatcc cccagatctt 2820
cagtgaccca gagaggaggg gacggcgcgt ggtgagctac aaggcatact cagtggaggg 2880
caagatcaag gcctccgtc cgtaggggac tccgctgcat caaggccaac tgctccgaac 2940
tgatcaattt ctggtgcaga caggtgcttg cggtcaggtt aaagaagttg gcaaaaatgc 3000
ttctgaagaa aggttaattg ttgtttcatc tcaggagatt ccagatgatc cagtgtctcc 3060
aacaattgag gcgcttattt tgctccatag taaagtaagt acacttgctg agaaccacca 3120
gttgacaaca cggcttgttg taccatcaaa caaagttggt tgtattcttg gggaaggtgg 3180
aaaggtaatt actgaaatga gaagacggac tggggctgaa atccgagtct actcaaaagc 3240
agataaacct aagtacctgt cttttgatga ggagcttgtg caggttgctg ggcttccagc 3300
tattgaaaga ggagccctga cagagattgc ttcgaggctt tgaactagga cactcagaga 3360
tggaagttct tccaataatc cgacaccttt tgcccctgtt gatggtcctc ctgttgatat 3420
cttgcctaac aaggaattca tgctatatgg acgatctgct aatagtcccc catatggagg 3480
gcctgctaat gatccaccat atggaagacc tgccattgat ccaccatatg gaagaccaat 3540
atccacaata tggaagacct gccaatgatc caccatatag aagacctgtc aatgatacat 3600
catattgagg gttgaacaat gatgggcctc gtgatcaggc ccggtcctga ggggggtcga 3660
atggggcgat cgctccgggc cccccgattc ccagggcccc cacctatctg tgcaacgagt 3720
agtagcgatc ttccagcgcg caacgtgagg cgatgtttct ccgtgatttc gccggcctgc 3780
aactgcgaga tcgcgagtat aacgatcagc cgatcgatct catctgccga ctgccatgct 3840
gatgccacac gcaagcgcag catatcagcc ttatcttggt tgatcggcat gctggacgag 3900
cacatctgtt gtcgcatcaa ctgctgactg ctatatatgt gctggtgctg aatcgatcga 3960
ttgtcgtcac ggaagtgaag aacaaccacg gcactgctgc ctgctgggct ctagccgcca 4020
tcagctgcgg agctgatcca tggacgtgag gattaccgaa gactgtcagg tctcactggg 4080
tatccaggtg gctctgtcga attgtggatt ccaaatagtt aactggagtc tgtcattggt 4140
gttggtggtg tcaatctagc tgagatccgt ctggtatagc gtaagagaaa catcatgcac 4200
tatccccagt cataaccatg ccccaatggc caccaatagt tttcctcgtg aaaatctccc 4260
cttgatccca gatctctggt gcgagagtga agttgcacga agcccatcct ggttcttccg 4320
agtccattgt ggagatccag ggcattccgg atcaagtgaa agccgcacag agccttctgc 4380
aaggcttcat cggcgcaagc agcaacagca ggcaggcgcc ccagtcctct cgcatggccc 4440
attatttta gtaagctgga ggacattcgc aacagggggg tcagtggtca ctgcaaagct 4500
gagtttgttc ttcagttcaa ctgcagaaaa ttgcagatcg gttgccgtag ttgctagaac 4560
ggtacatagt tgccacctaa ctgtagcgag tggcataact tattgtgtgt tactgcccaa 4620
tgttgtctct ccttgtgttc atggattcag acttgtgatt gtagtatttc tggatcagac 4680
tggagtaaaa gaaaaaaaaa aaggaagaca tgggtttaac agtaaaaaaa aaaaaaaaaa 4740
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaa         4779

<210>  82
<211>  6158
<212>  DNA
<213>  rice

<400>  82
cgcgcagaag agatcgatcg cgatctccct gccccgacgt cgccggccga tctctcattc 60
tctccacgcc ctgctcgtcg ccgatctcct acaccatccc tgccatctcc tccttcccct 120
cccctctatc ctccactggt gccgcccacc tctccgtata agacaaactg cgttgcggcg 180
ttggtttccg ccggcgctgc tgctgcacct gtcagctagg gcgggcatgg cgcgccgcgc 240
cgcttcccgc gctgttggcg cccttcgctc ggacggctcg atccaagggc gaggaggccg 300
cgcggggggc agtggcgccg aggacgcacg ccacgtgttc gacgaattgc tccgccgtgg 360
caggggcgcc tcgatctacg gcttgaaccg cgccctcgcc gacgtcgcgc gtgacagccc 420
cgcggccgcc gtgtcccgct acaaccgcat ggcccgagcc ggcgccgacg aggtaactcc 480
cgacttgtgc acctacggca ttctcatcgg ttgctgctgc cgcgcgggcc gcttggacct 540
```

71

```
cggtttcgcg gccttgggca atgtcattaa gaagggattt agagtggacg ccatcgcctt  600
cactcctctg ctcaagggcc tctgtgccga caagaggacg agcgacgcaa tggacatagt  660
gctccgcaga atgaccgagc tcggctgcat accaaatgtc ttctcctaca atattcttct  720
caagggctg tgtgatgaga acagaagcca agaagctctc gagctgctgc acatgatggc  780
tgatgatcga ggaggaggta gcccacctga tgtggtgtcg tataccactg tcatcaatgg  840
cttcttcaaa gaggggattt cagacaaagc ttacagtaca taccatgaaa tgctggaccg  900
ggggatttta cctgatgttg tgacctacaa ctctattatt gctgcgttat gcaaggctca  960
agctatggac aaagccatgg aggtacttaa caccatggtt aagaatggtg tcatgcctga 1020
ttgcatgaca tataatagta ttctgcatgg atattgctct tcagggcagc cgaaagaggc 1080
tattggattt ctcaaaaaga tgcgcagtga tggtgtcgaa ccagatgttg ttacttatag 1140
cttgctcatg gattatcttt gcaagaacgg aagatgcatg gaagctagaa agattttcga 1200
ttctatgacc aagaggggcc taaagcctga aattactacc tatggtaccc tgcttcaggg 1260
gtatgctacc aaaggagccc ttgttgagat gcatggtctc ttggatttga tggtacgaaa 1320
cggtatccac cctgatcatt atgttttcag cattctaata tgtgcatacg ctaaacaagg 1380
gaaagtagat caggcaatgc ttgtgttcag caaaatgagg cagcaaggat tgaatccgaa 1440
tgcagtgacg tatggagcag ttataggcat actttgcaag tcaggcagag tagaagatgc 1500
tatgctttat tttgagcaga tgatcgatga aggactaagc cctggcaaca ttgtttataa 1560
ctccctaatt catggtttgt gcacctgtaa caaatgggag agggctgaag agttaattct 1620
tgaaatgttg gatcgaggca tctgtctgaa cactattttc tttaattcaa taattgacag 1680
tcattgcaaa gaagggaggg ttatagaatc tgaaaaactc tttgagctga tggtacgtat 1740
tggtgtgaag cccaatgtca ttacctacaa tactcttatc aatggatatt gcttggcagg 1800
taagatggat gaagcaatga agttactttc tggcatggtc tcagttgggt tgaaacctaa 1860
tactgttact tatagcactt tgattaatgg ctactgcaaa attagtagga tggaagacgc 1920
gttagttctt tttaaggaga tggagagcag tggtgttagt cctgatatta ttacgtataa 1980
cataattctg caaggtttat ttcaaaccag aagaactgct gctgcaaaag aactctatgt 2040
taggattacc gaaagtggaa cgcagattga acttagcaca tacaacataa tccttcatgg 2100
actttgcaaa aacaaactca ctgatgatgc acttcagatg tttcagaacc tatgtttgat 2160
ggatttgaag cttgaggcta ggactttcaa cattatgatt gatgcattgc ttaaagttgg 2220
cagaaatgat gaagccaagg atttgtttgt tgctttctcg tctaacggtt tagtgccgaa 2280
ttattggacg tacaggttga tggctgaaaa tattatagga caggggttgc tagaagaatt 2340
ggatcaactc tttctttcaa tggaggacaa tggctgtact gttgactctg gcatgctaaa 2400
tttcattgtt agggaactgt tgcagagagg tgagataacc agggctggca cttacctttc 2460
catgattgat gagaagcact tttccctcga agcatccact gcttccttgt ttatagatct 2520
tttgtctggg ggaaaatatc aagaatatta taggtttctc cctgaaaaat acaagtcctt 2580
tatagaatct ttgagctgct gaagcatttt gcagctttga aattctgtgt tggaattctt 2640
ttctcctaca gtcctattag aggagggatc ttctctgtat gtgtaaatag cgaggtatgt 2700
atgccacctc tccgaattat ttttactgtg gttcctagac tgtaaacaag caattatgtt 2760
atgctgttga tgccagaaaa aacataaaag tttgtcgtta tctctactaa cggatcataa 2820
agggatttgt gactggagtt tcaaacttaa tgtgtctagg cagtaatttt gacattagat 2880
ccaaaacaat ttatagggtt tcattaaatt tcatctatgt gtactgttta ggtgttgaat 2940
agtttgactt gtttttaac tgaacaaaag atatgtctga agctttgttc tttaccaaat 3000
gcagtactga tcatcacaat atatttttta tggaacaaga ttggattgta tagaatggtt 3060
tctgatctga ttatcttatc tcaacgtatt attatgcaca tgtactaatc atgaaatatc 3120
tgatggaatg atgtttctat ttacctgtgt gaggcagcaa ggagtgagat ggataacacc 3180
acatactccc tctgtcccag aatataagaa gttttagagt tggacacgat tattaagaaa 3240
gtaggtagaa gtgagtagtg gagggttgtg attgcatgag tagtggaggt aggtgggaaa 3300
agtgaatggt ggagggttgt gattggttgg aagagaatg ttggtagaga agttgttata 3360
ttttggggag tacattatta ttctagaaca atactgttgt gctcaagaag cgttccaaag 3420
atgtttcaca acctgtgctc gatgggtttt gagcttaatc ctgggacatt cagtatcatg 3480
atctgtctca ttcttaaaca tggaataaag gatgacagca tgatttcttt gtctctataa 3540
tcttttggct acccacagat aatagctgta aatctatact actttaaaag gagtagtggt 3600
ggtggtgagt ggtgaatctg ccaccacccc accaccaact ctcaaaattc tgacatgtgg 3660
gatcactgtc aatcccttct ccaagacatg tgggatcact gtcaatccct tctccaaacc 3720
aattgtatga tagaacagtg gaaatcacgg acagaccatg gagctctcaa ccataatcat 3780
ccttgcgagt taataacaaa tggagcgtaa acttggcaag caaaaaactc aaattaattc 3840
taaaattaag ctctaggatt caaaatagat ttcctctctg cattgtgctg ttatgatttt 3900
taattccgta acaacgcaaa tgcattttgc tagtcttata aagaagggtt aatgcaaata 3960
```

72

```
ttctgattaa atgattgtat ctatgaagtt tgaatgctag tggaagctcc tttgaccatg 4020
ttttgttgtg cgagcattta agagagtgaa gagaatgctt ctttggtgct gttctggtat 4080
ggaaggatcc acagataaaa ttcaggagaa tatagtagtg gccaaggttg gtgacggtga 4140
tggtggcatg tgatcccca gatcttcagt gacccagaga ggaggggacg gcgcgtggtg 4200
agctacaagg catactcagt ggagggcaag atcaaggcct cccgtccgta ggggactccg 4260
ctgcatcaag gccaactgct ccgaactgat caatttctgg tgcagacagg tgcttgcggt 4320
caggttaaag aagttggcaa aaatgcttct gaagaaaggt taattgttgt ttcatctcag 4380
gagattccag atgatccagt gtctccaaca attgaggcgc ttattttgct ccatagtaaa 4440
gtaagtacac ttgctgagaa ccaccagttg acaacacggc ttgttgtacc atcaaacaaa 4500
gttggttgta ttcttgggga aggtggaaag gtaattactg aaatgagaag acggactggg 4560
gctgaaatcc gagtctactc aaaagcagat aaacctaagt acctgtcttt tgatgaggag 4620
cttgtgcagg ttgctgggct tccagctatt gaaagaggag ccctgacaga gattgcttcg 4680
aggctttgaa ctaggacact cagagatgga agttcttcca ataatccgac acctttttgcc 4740
cctgttgatg gtcctcctgt tgatatcttg cctaacaagg aattcatgct atatggacga 4800
tctgctaata gtcccccata tggagggcct gctaatgatc caccatatgg aagacctgcc 4860
attgatccac catatggaag accaatatcc acaatatgga agacctgcca atgatccacc 4920
atatagaaga cctgtcaatg atacatcata ttgagggttg aacaatgatg ggcctcgtga 4980
tcaggcccgg tcctgagggg ggtcgaatgg ggcgatcgct ccgggccccc cgattccag 5040
ggcccccacc tatctgtgca acgagtagta gcgatcttcc agcgcgcaac gtgaggcgat 5100
gtttctccgt gatttcgccg gcctgcaact gcgagatcgc gagtataacg atcagccgat 5160
cgatctcatc tgccgactgc catgctgatg ccacacgcaa gcgcagcata tcagccttat 5220
cttggttgat cggcatgctg gacgagcaca tctgttgtcg catcaactgc tgactgctat 5280
atatgtgctg gtgctgaatc gatcgattgt cgtcacggaa gtgaagaaca accacggcac 5340
tgctgcctgc tgggctctag ccgccatcag ctgcggagct gatccatgga cgtgaggatt 5400
accgaagact gtcaggtctc actgggtatc caggtggctc tgtcgaattg tggattccaa 5460
atagttaacc ggagtctgtc attggtgttg gtggtgtcaa tctagctgag atccgtctgg 5520
tatagcgtaa gagaaacatc atgcactatc cccagtcata accatgcccc aatggccacc 5580
aatagttttc ctcgtgaaaa tctccccttg atcccagatc tctggtgcga gagtgaagtt 5640
gcacgaagcc catcctggtt cttccgagtc cattgtggag atccagggca ttccggatca 5700
agtgaaagcc gcacagagcc ttctgcaagg cttcatcggc gcaagcagca acagcaggca 5760
ggcgccccag tcctctcgca tggcccatta tttttagtaa gctggaggac attcgcaaca 5820
gggggggtcag tggtcactgc aaagctgagt ttgttcttca gttcaactgc agaaaattgc 5880
agatcggttg ccgtagttgc tagaacggta catagttgcc acctaactgt agcgagtggc 5940
ataacttatt gtgtgttact gcccaatgtt gtctctcctt gtgttcatgg attcagactt 6000
gtgattgtag tatttctgga tcagactgga gtaaaagaaa aaaaaaaagg aagacatggg 6060
tttaacagta aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 6120
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaa                        6158
```

<210> 83
<211> 2864
<212> DNA
<213> rice

<400> 83

```
aagagatcga tcgcgatctc cctgccccga cgtcgccggc cgatctctca ttctctccac 60
gccctgctcg tcgccgatct cctacaccat ccctgccatc tcctccttcc cctcccctct 120
atcctccact ggtgccgccc acctctccgt ataagacaaa ctgcgttgcg cgttggtttt 180
ccgccggcgc tgctgctgca cctgtcagct agggcgggca tggcgcgccg cgccgcttcc 240
cgcgctgttg gcgcccttcg ctcggacggc tcgatccaag ggcgaggagg ccgcgcgggg 300
ggcagtggcg ccgaggacgc acgccacgtg ttcgacgaat tgctccgccg tggcagggggc 360
gcctcgatct acggcttgaa ccgcgccctc gccgacgtcg cgcgtgacag ccccgcggcc 420
gccgtgtccc gctacaaccg catggcccga gccggcgccg acgaggtaac tcccgacttg 480
tgcacctacg gcattctcat cggttgctgc tgccgcgcgg ccgcttgga cctcggtttc 540
gcggccttgg gcaatgtcat taagaaggga tttagagtgg acgccatcgc cttcactcct 600
ctgctcaagg gcctctgtgc cgacaagagg acgagcgacg caatggacat agtgctccgc 660
agaatgaccg agctcggctg cataccaaat gtcttctcct acaatattct tctcaagggg 720
ctgtgtgatg agaacagaag ccaagaagct ctcgagctgc tgcacatgat ggctgatgat 780
```

73

cgaggaggag gtagcccacc tgatgtggtg tcgtatacca ctgtcatcaa tggcttcttc 840
aaagaggggg attcagacaa agcttacagt acataccatg aaatgctgga ccggggggatt 900
ttacctgatg ttgtgaccta caactctatt attgctgcgt tatgcaaggc tcaagctatg 960
gacaaagcca tggaggtact taacaccatg gttaagaatg gtgtcatgcc tgattgcatg 1020
acatataata gtattctgca tggatattgc tcttcaggggc agccgaaaga ggctattgga 1080
tttctcaaaa agatgcgcag tgatggtgtc gaaccagatg ttgttactta tagcttgctc 1140
atggattatc tttgcaagaa cggaagatgc atggaagcta gaaagatttt cgattctatg 1200
accaagaggg gcctaaagcc tgaaattact acctatggta ccctgcttca ggggtatgct 1260
accaaaggag cccttgttga gatgcatggt ctcttggatt tgatggtacg aaacggtatc 1320
caccctgatc attatgtttt cagcattcta atatgtgcat acgctaaaca agggaaagta 1380
gatcaggcaa tgcttgtgtt cagcaaaatg aggcagcaag gattgaatcc gaatgcagtg 1440
acgtatggag cagttatagg catactttgc aagtcaggca gagtagaaga tgctatgctt 1500
tattttgagc agatgatcga tgaaggacta agccctggca acattgttta taactcccta 1560
attcatggtt tgtgcacctg taacaaatgg gagagggctg aagagttaat tcttgaaatg 1620
ttggatcgag gcatctgtct gaacactatt ttctttaatt caataattga cagtcattgc 1680
aaagaaggga gggttataga atctgaaaaa ctctttgagc tgatggtacg tattggtgtg 1740
aagcccaatg tcattaccta caatactctt atcaatggat attgcttggc aggtaagatg 1800
gatgaagcaa tgaagttact ttctggcatg gtctcagttg ggttgaaacc taatactgtt 1860
acttatagca ctttgattaa tggctactgc aaaattagta ggatggaaga cgcgttagtt 1920
ctttttaagg agatggagag cagtggtgtt agtcctgata ttattacgta taacataatt 1980
ctgcaaggtt tatttcaaac cagaagaact gctgctgcaa aagaactcta tgttaggatt 2040
accgaaagtg gaacgcagat tgaacttagc acatacaaca taatccttca tggactttgc 2100
aaaaacaaac tcactgatga tgcacttcag atgtttcaga acctatgttt gatggatttg 2160
aagcttgagg ctaggacttt caacattatg attgatgcat tgcttaaagt tggcagaaat 2220
gatgaagcca aggatttgtt tgttgctttc tcgtctaacg tttagtgcc gaattattgg 2280
acgtacaggt tgatggctga aaatattata ggacaggggt tgctagaaga attggatcaa 2340
ctctttcttt caatggagga caatggctgt actgttgact ctggcatgct aaatttcatt 2400
gttagggaac tgttgcagag aggtgagata accagggctg gcacttacct ttccatgatt 2460
gatgagaagc acttttccct cgaagcatcc actgcttcct tgtttataga tcttttgtct 2520
gggggaaaat atcaagaata ttataggttt ctccctgaaa aatacaagtc ctttatagaa 2580
tctttgagct gctgaagcat tttgcagctt tgaaattctg tgttggaatt cttttctcct 2640
acagtcctat tagaggaggg atcttctctg tatgtgtaaa tagcgaggta tgtatgccac 2700
ctctccgaat tatttttact gtggttccta gactgtaaac aagcaattat gttatgctgt 2760
tgatgccaga aaaaacataa aagtttgtcg ttatctctac taacggatca taaagggatt 2820
tgtgactgga gtttcaaaaa aaaaaaaaaa aaaaaaaaa aaaa   2864

<210> 84
<211> 2819
<212> DNA
<213> rice

<400> 84
ctcattctct ccacgccctg ctcgtcgccg atctcctaca ccatccctgc catctcctcc 60
ttcccctccc ctctatcctc cactggtgcc gcccacctct ccgtataaga caaactgcgt 120
tgcggcgttg gtttccgccg cgcgctgctgc tgcacctgtc agctagggcg ggcatggcgc 180
gccgcgccgc ttcccgcgct gttggcgccc ttcgctcgga cggctcgatc caagggcgag 240
gaggccgcgc ggggggcagt ggcgccgagg acgcacgcca cgtgttcgac gaattgctcc 300
gccgtggcag gggcgcctcg atctacggct tgaaccgcgc cctcgccgac gtcgcgcgtg 360
acagccccgc ggccgccgtg tcccgctaca accgcatggc ccgagccggc gccgacgagg 420
taactcccga cttgtgcacc tacggcattc tcatcggttg ctgctgccgc gcgggccgct 480
tggacctcgg tttcgcggcc ttgggcaatg tcattaagaa gggatttaga gtggacgcca 540
tcgccttcac tcctctgctc aagggcctct gtgccgacaa gaggacgagc gacgcaatgg 600
acatagtgct ccgcagaatg accgagctcg gctgcatacc aaatgtcttc tcctacaata 660
ttcttctcaa ggggctgtgt gatgagaaca gaagccaaga agctctcgag ctgctgcaca 720
tgatggctga tgatcgagga ggaggtagcc cacctgatgt ggtgtcgtat accactgtca 780
tcaatggctt cttcaaagag gggggattcag acaaagctta cagtacatac catgaaatgc 840
tggaccgggg gatttttacct gatgttgtga cctacaactc tattattgct gcgttatgca 900

```
aggctcaagc tatggacaaa gccatggagg tacttaacac catggttaag aatggtgtca 960
tgcctgattg catgacatat aatagtattc tgcatggata ttgctcttca gggcagccga 1020
aagaggctat tggatttctc aaaaagatgc gcagtgatgg tgtcgaacca gatgttgtta 1080
cttatagctt gctcatggat tatctttgca agaacggaag atgcatggaa gctagaaaga 1140
ttttcgattc tatgaccaag aggggcctaa agcctgaaat tactacctat ggtaccctgc 1200
ttcagggta tgctaccaaa ggagcccttg ttgagatgca tggtctcttg gatttgatgg 1260
tacgaaacgg tatccaccct gatcattatg ttttcagcat tctaatatgt gcatacgcta 1320
aacaagggaa agtagatcag gcaatgcttg tgttcagcaa aatgaggcag caaggattga 1380
atccgaatgc agtgacgtat ggagcagtta taggcatact ttgcaagtca ggcagagtag 1440
aagatgctat gctttatttt gagcagatga tcgatgaagg actaagccct ggcaacattg 1500
tttataactc cctaattcat ggtttgtgca cctgtaacaa atgggagagg ctgaagagt 1560
taattcttga aatgttggat cgaggcatct gtctgaacac tatttttcttt aattcaataa 1620
ttgacagtca ttgcaaagaa gggagggtta tagaatctga aaaactcttt gagctgatgg 1680
tacgtattgg tgtgaagccc aatgtcatta cctacaatac tcttatcaat ggatattgct 1740
tggcaggtaa gatggatgaa gcaatgaagt tactttctgg catggtctca gttgggttga 1800
aacctaatac tgttacttat agcactttga ttaatggcta ctgcaaaatt agtaggatgg 1860
aagacgcgtt agttcttttt aaggagatgg agagcagtgg tgttagtcct gatattatta 1920
cgtataacat aattctgcaa ggtttatttc aaaccagaag aactgctgct gcaaaagaac 1980
tctatgttag gattaccgaa agtggaacgc agattgaact tagcacatac aacataatcc 2040
ttcatggact ttgcaaaaac aaactcactg atgatgcact tcagatgttt cagaaccgat 2100
gtttgatgga tttgaagctt gaggctagga ctttcaacat tatgattgat gcattgctta 2160
aagttggcag aaatgatgaa gccaaggatt tgtttgttgc tttctcgtct aacggtttag 2220
tgccgaatta ttggacgtac aggttgatgg ctgaaaatat tataggacag gggttgctag 2280
aagaattgga tcaactcttt ctttcaatgg aggacaatgg ctgtactgtt gactctggca 2340
tgctaaattt cattgttagg gaactgttgc agagaggtga gataaccagg gctggcactt 2400
accccttccat gattgatgag aagcactttt ccctcgaagc atccactgct tccttgttta 2460
tagatctttt gtctggggga aaatatcaag aatattatag gtttctccct gaaaaataca 2520
agtcctttat agaatctttg agctgctgaa gcattttgca gctttgaaat tctgtgttgg 2580
aattctttttc tcctacagtc ctattagagg agggatcttc tctgtatgtg taaatagcga 2640
ggtatgtatg ccacctctcc gaattatttt tactgtggtt cctagactgt aaacaagcaa 2700
ttatgttatg ctgttgatgc cagaaaaaac ataaaagttt gtcgttatct ctactaacgg 2760
atcataaagg gatttgtgac tggagtttca aaaaaaaaaa aaaaaaaaaa aaaaaaaa 2819

<210>   85
<211>   2649
<212>   DNA
<213>   rice

<400>   85
ggtgccgccc acctctccgt ataagacaaa ctgcgttgcg gcgttggttt ccgccggcgc 60
tgctgctgca cctgtcagct agggcgggca tggcgcgccg cgccgcttcc cgcgctgttg 120
gcgccctttcg ctcggacggc tcgatccaag ggcgaggagg ccgcgcgggg ggcagtggcg 180
ccgaggacgc acgccacgtg ttcgacgaat tgctccgccg tggcaggggc gcctcgatct 240
acggcttgaa ccgcgccctc gccgacgtcg cgcgtgacag ccccgcggcc gccgtgtccc 300
gctacaaccg catggcccga gccggcgccg acgaggtaac tcccgacttg tgcacctacg 360
gcattctcat cggttgctgc tgccgcgcgg gccgcttgga cctcggtttc gcggccttgg 420
gcaatgtcat taagaaggga tttagagtgg acgccatcgc cttcactcct ctgctcaagg 480
gcctctgtgc cgacaagagg acgagcgacg caatggacat agtgctccgc agaatgaccg 540
agctcggctg cataccaaat gtcttctcct acaatattct tctcaagggg ctgtgtgatg 600
agaacagaag ccaagaagct ctcgagctgc tgcacatgat ggctgatgat cgaggaggag 660
gtagcccacc tgatgtggtg tcgtatacca ctgtcatcaa tggcttcttc aaagagggggg 720
attcagacaa agcttacagt acataccatg aaatgctgga ccgggggatt ttacctgatg 780
ttgtgaccta caactctatt attgctgcgt tatgcaaggc tcaagctatg acaaagcca 840
tggaggtact taacaccatg gttaagaatg gtgtcatgcc tgattgcatg acatataata 900
gtattctgca tggatattgc tcttcagggc agccgaaaga ggctattgga tttctcaaaa 960
agatgcgcag tgatggtgtc gaaccagatg ttgttactta tagcttgctc atggattatc 1020
tttgcaagaa cggaagatgc atggaagcta gaaagatttt cgattctatg accaagaggg 1080
```

75

```
gcctaaagcc tgaaattact acctatggta ccctgcttca ggggtatgct accaaaggag 1140
cccttgttga gatgcatggt ctcttggatt tgatggtacg aaacggtatc caccctgatc 1200
attatgtttt cagcattcta atatgtgcat acgctaaaca agggaaagta gatcaggcaa 1260
tgcttgtgtt cagcaaaatg aggcagcaag gattgaatcc gaatgcagtg acgtatggag 1320
cagttatagg catactttgc aagtcaggca gagtagaaga tgctatgctt tattttgagc 1380
agatgatcga tgaaggacta agccctggca acattgttta taactcccta attcatggtt 1440
tgtgcacctg taacaaatgg gagagggctg aagagttaat tcttgaaatg ttggatcgag 1500
gcatctgtct gaacactatt ttctttaatt caataattga cagtcattgc aaagaaggga 1560
gggttataga atctgaaaaa ctctttgagc tgatggtacg tattggtgtg aagcccaatg 1620
tcattaccta caatactctt atcaatggat attgcttggc aggtaagatg gatgaagcaa 1680
tgaagttact ttctggcatg gtctcagttg ggttgaaacc taatactgtt acttatagca 1740
ctttgattaa tggctactgc aaaattagta ggatggaaga cgcgttagtt cttttttaagg 1800
agatggagag cagtggtgtt agtcctgata ttattacgta taacataatt ctgcaaggtt 1860
tatttcaaac cagaagaact gctgctgcaa aagaactcta tgttaggatt accgaaagtg 1920
gaacgcagat tgaacttagc acatacaaca taatccttca tggactttgc aaaaacaaac 1980
tcactgatga tgcacttcag atgtttcaga acctatgttt gatggatttg aagcttgagg 2040
ctaggacttt caacattatg attgatgcat tgcttaaagt tggcagaaat gatgaagcca 2100
aggatttgtt tgttgctttc tcgtctaacg gtttagtgcc gaattattgg acgtacaggt 2160
tgatggctga aaatattata ggacaggggt tgctagaaga attggatcaa ctctttcttt 2220
caatggagga caatggctgt actgttgact ctggcatgct aaatttcatt gttagggaac 2280
tgttgcagag aggtgagata accagggctg gcacttacct ttccatgatt gatgagaagc 2340
acttttccct cgaagcatcc actgcttcct tgtttataga tcttttgtct gggggaaaat 2400
atcaagaata ttataggttt ctccctgaaa aatacaagtc ctttatagaa tctttgagct 2460
gctgaagcat tttgcagctt tgaaattctg tgttggaatt cttttctcct acagtcctat 2520
tagaggaggg atcttctctg tatgtgtaaa tagcgaggta tgtatgccac ctctccgaat 2580
tatttttact gtggttccta gactgtaaac aagcaattat gttatgctgt tgatgccaga 2640
aaaaaaaaa                                                       2649


<210>  86
<211>  24
<212>  DNA
<213>  Artificial Sequence


<220>
<223>  Synthetic oligonucleotide primer for amplification


<400>  86
cagttgggtt gaaacctaat actg        24


<210>  87
<211>  24
<212>  DNA
<213>  Artificial Sequence


<220>
<223>  Synthetic oligonucleotide primer for amplification


<400>  87
cactaaaccg ttagacgaga aagc        24
```